

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.

1.2 Changes in accounting principles

Accounting policies applied for the first time in 2023

The Consolidated Financial Statements of BASF SE as of December 31, 2023, 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 2023 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, 2023 to December 31, 2023, 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 amendments presented in the following table had no material effect on the Consolidated Financial Statements of BASF SE. Especially transactions within the scope of application of IFRS 17 were identified for BASF to a minor extent only.

Due to rounding, individual figures in this report may not add up to the totals shown and percentages may not correspond exactly to the figures shown.

The individual financial statements of the consolidated companies are prepared as of the balance sheet date of the Consolidated Financial Statements. Business continuity is assumed. The accounting policies applied are largely the same as those used in 2022.

For more information, see Note 1.3 from page 236 onward and Note 10 from page 253 onward

On February 19, 2024, 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.

Accounting policies applied for the first time in 2023

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Date of endorsement by the E.U.
Introduction of IFRS 17	Insurance Contracts (Including Amendments to the Standard)	May 18, 2017 June 25, 2020	November 19, 2021
Amendments to IFRS 17	Insurance Contracts (Initial Application of IFRS 17 and IFRS 9 – Comparative Information)	December 9, 2021	September 8, 2022
Amendments to IAS 1 and IFRS Practice Statement 2	Presentation of Financial Statements and Making Materiality Judgements (Disclosure of Key Accounting Policies)	February 12, 2021	March 2, 2022
Amendments to IAS 8	Accounting Policies, Changes in Accounting Estimates and Errors (Definition of Changes in Accounting Policies and Accounting Estimates)	February 12, 2021	March 2, 2022
Amendments to IAS 12	Income Taxes (Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction)	May 7, 2021	August 11, 2022
Amendments to IAS 12	Income Taxes (International Tax Reform – Guidelines on Global Minimum Taxation (Pillar Two Model Rules))	May 23, 2023	November 8, 2023

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 2023 but already endorsed by the European Union were reviewed. The amendments to IFRS 16 and IAS 1 are unlikely to have a material impact on the reporting of BASF and were not adopted early.

IFRSs and IFRICs not yet to be considered but already endorsed by the E.U.

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Date of endorsement by the E.U.	Mandatory date of initial application
Amendments to IFRS 16	Leases (Accounting of a Lease Liability in a Sale and Leaseback)	September 22, 2022	November 20, 2023	January 1, 2024
Amendments to IAS 1	Presentation of Financial Statements – Classification of Liabilities as Current or Noncurrent – Deferral of Effective Date – Classification of Noncurrent Liabilities with Covenants	January 23, 2020 July 15, 2020 October 31, 2022	December 19, 2023	January 1, 2024

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 not likely to have a material impact on BASF's reporting. BASF does not plan on early adoption of these amendments.

IFRSs and IFRICs not yet to be considered and not yet endorsed by the E.U.

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Expected date of initial application
Amendments to IAS 7 and IFRS 7	Statement of Cash Flows/Financial Instruments: Disclosures (Disclosure requirements in connection with supplier finance arrangements)	May 25, 2023	January 1, 2024
Amendments to IAS 21	The Effects of Changes in Foreign Exchange Rates (Determination of Exchange Rates in the Event of Lack of Exchangeability)	August 15, 2023	January 1, 2025

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

Fulfillment of these three criteria is analyzed based on the corporate governance structure of the companies.

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 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 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 than those applied by BASF are adjusted.

Transactions between consolidated companies as well as intercompany profits resulting from trade between consolidated companies are eliminated in full. Sales and material other balances and transactions between joint operations and fully consolidated Group companies are also eliminated. Material intercompany profits related to companies accounted for using the equity method are eliminated.

Capital consolidation is conducted at the acquisition date according to the purchase method. Initially, all assets, liabilities and additional intangible assets that are to be capitalized are measured at fair value regardless of the scope of any noncontrolling interests. Subsequently, the cost of acquiring the company is compared with the proportional share of the fair value of the net assets acquired. The resulting positive differences are capitalized as goodwill. Negative differences are reviewed once more, then recognized directly in the income statement.

Non-controlling interests are measured at fair value on the date of acquisition proportional to the assets acquired and liabilities assumed (partial goodwill method).

The incidental acquisition costs of a business combination are recognized in the income statement under other operating expenses.

 For more information, see Note 13 on page 263

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. They are then 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 equity translated at historical rates at the time of acquisition or retention and its equity translated 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 disposal of the company or a foreign business.

For certain companies outside the eurozone or U.S. dollar zone, the euro or U.S. dollar is the functional currency (among others, BASF Tuerk Kimya Sanayi ve Ticaret Ltd. Sti., Istanbul, Turkey, and BASF Argentina S.A., Buenos Aires, Argentina). 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, 2023	Dec. 31, 2022	2023	2022
Brazil (BRL)	5.36	5.64	5.40	5.44
China (CNY)	7.85	7.36	7.66	7.08
Japan (JPY)	156.33	140.66	151.99	138.03
Malaysia (MYR)	5.08	4.70	4.93	4.63
Mexico (MXN)	18.72	20.86	19.18	21.19
Switzerland (CHF)	0.93	0.98	0.97	1.00
South Korea (KRW)	1,433.66	1,344.09	1,412.88	1,358.07
United States (USD)	1.11	1.07	1.08	1.05
United Kingdom (GBP)	0.87	0.89	0.87	0.85

1.4 Accounting policies

The accounting policies for the individual items in the balance sheet and the income statement are presented in the respective sections of the Notes.

Business combinations: In business combinations, the acquired assets and liabilities are recognized at fair value on the date the acquirer effectively obtains control. The fair value of acquired assets and assumed liabilities at the date of acquisition, as well as the useful lives of the acquired assets, are largely based on projected cash flows. Actual cash flows can deviate significantly from those. Independent external appraisals are typically used for the purchase price allocation of material business combinations. Valuations in the course of business combinations are based on existing information as of the acquisition date.

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 or the extent of recognition of assets, liabilities and provisions for taxes. Although uncertainty is appropriately incorporated in the valuation factors, actual results can differ from these estimates. Furthermore, extraordinary challenges resulting from current geopolitical and economic developments are also considered. Current inflation developments were taken into account both in the measurement of pension provisions and other provisions as well as in the fixed asset impairment tests.

Climate and sustainability-related developments: The chemical industry is resource-intensive. BASF is committed to the Paris Climate Agreement: Using resources as efficiently and responsibly as possible and the concept of a circular economy are firmly embedded in BASF's strategy and its actions. BASF pursues clearly defined goals to reduce CO₂ as well regarding the use of renewable and recycled raw materials. In this context, BASF always strives to employ raw materials more efficiently and improve production processes as well as to continually seek ways to use non-fossil, renewable or recycled feedstocks. Despite the current

global political situation, the path to climate neutrality is resolutely being pursued. For this reason, current developments and measures relating to climate change and sustainability do not lead to fundamentally changed expectations with regard to useful lives or recoverability of the majority of noncurrent assets. There is also no material need for adjustments to provisions for environmental and restoration obligations. In individual cases, however, plants may be shut down if necessary for reasons of environmental protection. Climate policies are also causing fundamental changes in the automotive industry, one of BASF's key customer industries.

The transition to electromobility will have a long-term negative impact on the emissions catalyst business. This development was reflected in a negative long-term growth rate used in the goodwill impairment test for the Catalysts (excluding battery materials) cash-generating unit without leading to an impairment. Other BASF businesses will benefit from this transformation; for example, demand for innovative lightweight components and battery materials will grow.

2 Scope of consolidation

Scope of consolidation

Number of companies

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	2023	2022
As of January 1	133	44	33	70	21	257	267
of which proportionally consolidated	7	–	–	2	–	9	9
First-time consolidations ^a	7	2	3	3	2	15	1
of which proportionally consolidated	–	–	–	–	–	–	–
Deconsolidations ^b	2	2	–	–	1	3	11
of which proportionally consolidated	–	–	–	–	–	–	–
As of December 31	138	44	36	73	22	269	257
of which proportionally consolidated	7	–	–	2	–	9	9

^a Acquisitions, newly established companies, or reclassification due to increased importance

^b Divestitures, mergers, liquidations, or downgrades due to decreased importance

In 2023, eleven companies were included in the scope of consolidation for the first time in connection with the carve-out of the BASF Environmental Catalyst and Metal Solutions business unit. Of these companies, four were in Europe (one of those in Germany), three in North America, two in South America, Africa,

Middle East and two in Asia Pacific. Three companies with headquarters in Europe (one of those in Germany) were added to the scope of consolidation in connection with the expansion of the battery materials business. One company with headquarters in Asia Pacific was included for the first time due to its increased importance.

Three companies, two of which with headquarters in Germany and one in South America, Africa, Middle East, merged.

Overview of impact of changes in the scope of consolidation (excluding acquisitions and divestitures)

	2023		2022	
	Million €	% ^a	Million €	% ^a
Sales	-	-	-46	0.0
Noncurrent assets	-2	0.0	191	0.4
of which property, plant and equipment	-	-	-1	0.0
Current assets	0	0.0	11	0.0
of which cash and cash equivalents	2	0.1	5	0.2
Assets	-2	0.0	202	0.2
Equity	1	0.0	124	0.3
Noncurrent liabilities	-	-	128	0.6
of which financial indebtedness	-	-	-	-
Current liabilities	-3	0.0	-50	-0.2
of which financial indebtedness	-	-	-	-
Total equity and liabilities	-2	0.0	202	0.2
Other financial obligations	-	-	-	-

^a Proportional share in relation to the BASF Group

The proportionally consolidated joint operations include, in particular:

- Ellba C.V., Rotterdam, Netherlands, which is jointly operated with Shell for the production of propylene oxide and styrene monomer
- BASF DOW HPPO Production BVBA, Antwerp, Belgium, which is jointly operated with Dow for the production of propylene oxide
- Butachimie SNC, Chalampé, France, which is jointly operated with Invista for the production of adiponitrile (ADN) and hexamethylenediamine (HMD)
- Alsachimie S.A.S., Chalampé, France, which is jointly operated with Domo Chemicals for the production of adipic acid

In addition to the fully and proportionally consolidated companies, 21 joint ventures and/or associated companies (2022: 23) were consolidated using the equity method as of December 31, 2023.

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](https://www.basf.com/en/corporategovernance)

3 Acquisitions and divestitures

Acquisitions

No material activities were acquired in 2023 or 2022.

The compensation component agreed as part of the establishment of BASF Shanshan Battery Materials Co., Ltd., Changsha, China, in 2021 was realized in the amount of €18 million in 2023 and 2022 respectively.

A purchase price adjustment for the polyamide business acquired in 2020 led to a payment of €5 million in 2023 (2022: €13 million).

Divestitures

In 2023, BASF sold the following activity:

- On August 31, 2023, BASF completed the sale of its production site in De Meern, Netherlands, to IQatlyst B.V., Luxembourg, a subsidiary of ASC Investment Sarl, Luxembourg. The transaction mainly covered facilities for the production of nickel-based catalysts, including the associated infrastructure and inventories. The production site was part of the Catalysts division. The purchase price was €13 million, and the after-tax disposal loss was €4 million.

BASF sold the following activities in 2022:

- On April 12, 2022, BASF completed the sale of a 51% share in HKZ Investor Holding B.V., Arnhem, Netherlands, the holding company for the investment in the Hollandse Kust Zuid (HKZ) wind farm, to Allianz Capital Partners, Luxembourg, acting as party to the contract on behalf of Allianz Insurance Companies. Since then, BASF's remaining shares in HKZ Investor Holding B.V. have been accounted for using the equity method. The proportional net income was presented in the BASF Group's income from operations. The integral investment is not allocated to any division but reported under Other. The disposal group of the wind farm investment was derecognized in April 2022 when the shares were sold. The disposal gain included the gain from the transition from full consolidation to the equity method and was likewise presented in income from operations.
- On September 30, 2022, BASF closed the divestiture of its kaolin minerals business to KaMin, a global performance minerals company headquartered in Macon, Georgia. The divestiture comprised the production hub with sites in Daveyville, Toddville, Edgar, Gordon and related mines, reserves and mills in Toombsboro and Sandersville in Georgia. The refinery catalysts production located at the same site remained part of BASF operations and was not included in the divestiture. The kaolin minerals business was allocated to the Performance Chemicals

division. The disposal group of the kaolin minerals business was derecognized in September 2022 when the transaction closed. The adjustment of the disposed net assets led to a €6 million increase in disposal loss after taxes in 2023.

- On October 31, 2022, BASF completed the sale of its production site in Quincy, Florida, and the associated attapulgitic business in the Dispersions & Resins division to Clariant Corporation, Louisville, Kentucky. The Quincy site employed around 75 employees and manufactured clay-based mineral products used in a variety of industrial applications. The purchase price was \$60 million.

The following overview shows the effects of the divestitures in 2023 and 2022 on the Consolidated Financial Statements. The sales line item shows the year-on-year decline resulting from divestitures. The impact on equity related mainly to gains and losses from divestitures. Payments received from divestitures amounted to €32 million and related to various smaller transactions as well as to payments received in connection with outstanding purchase price receivables and the purchase price adjustment for a transaction from previous years.

Effects of divestitures

	2023		2022	
	Million €	% ^a	Million €	% ^a
Sales	-212	-0.2	-564	-0.6
Noncurrent assets	-30	-0.1	310	0.7
of which property, plant and equipment	-21	-0.1	-32	-0.1
Current assets	-12	0.0	-994	-2.7
of which cash and cash equivalents ^b	-	-	-21	0.0
Assets	-42	-0.1	-684	-0.8
Equity	-8	0.0	256	0.6
Noncurrent liabilities	-1	0.0	-15	-0.1
of which financial indebtedness	-	-	-	-
Current liabilities	-1	0.0	-213	-1.0
of which financial indebtedness	-	-	-	-
Total equity and liabilities	-9	0.0	28	0.0
Payments received from divestitures	32		712	
Further effects in connection with divestitures ^c	-		-21	
Payments received from divestitures according to statement of cash flows	32		691	

^a Proportional share in relation to the BASF Group

^b Includes €21 million from the divested disposal group of the wind farm share in 2022

^c Includes disposals from cash and cash equivalents in 2022

Agreed transactions

On December 21, 2023, BASF, LetterOne and Harbour Energy plc (Harbour), London, United Kingdom, signed an agreement to combine the businesses of Wintershall Dea and Harbour. According to the agreement, Wintershall Dea's E&P business, consisting of its producing and development assets as well as exploration rights in Norway, Argentina, Germany, Mexico, Algeria, Libya (excluding Wintershall AG), Egypt and Denmark (excluding Ravn), as well as Wintershall Dea's carbon storage (CCS) licenses will be transferred to Harbour. Upon completion of the transaction, which is targeted for the fourth quarter of 2024, subject to further antitrust approvals and regulatory approvals for foreign investments in various countries, Wintershall Dea shareholders will receive a cash consideration totaling \$2.15 billion (BASF share: \$1.56 billion) and new shares to be issued by Harbour equating a

total shareholding of 54.5% in the enlarged Harbour (BASF share: 39.6%). As a non-integral shareholding, Wintershall Dea is accounted for using the equity method.

For more information, see Non-integral oil and gas business on page 97

4 BASF Group list of shares held pursuant to section 313(2) of the German Commercial Code (HGB)

The list of consolidated companies and the complete list of all companies in which BASF SE holds shares as required by section 313(2) HGB as well as information on the exemption of subsidiaries from accounting and disclosure obligations are an integral component of the audited Consolidated Financial Statements submitted to the electronic Federal Gazette (Bundesanzeiger). The list of shares held is also published online.

For more information, see basf.com/en/corporategovernance


5 Reporting by segment and region

Accounting policies

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. Activities that are not allocated to any of the divisions are recorded under Other.

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 according to the percentage of usage.

Income from operations (EBIT) before special items was used for the internal steering of the segments and to complement the key performance indicator, return on capital employed (ROCE), up to and including 2023. It is determined based on EBIT, which is calculated from gross profit on sales, selling expenses, general administrative expenses, research and development expenses, other operating income and expenses, and income from integral companies accounted for using the equity method. To calculate EBIT before special items, this figure is then adjusted for special items. Special items arise from the integration of acquired businesses, restructuring costs, impairments and reversals of impairments, gains or losses on divestitures and sales of integral investments accounted for using the equity method, as well as other expenses and income that arise outside of ordinary business activities. EBIT and EBIT before special items as well as EBITDA and EBITDA before special items are alternative performance measures that are not defined under IFRS and are to be considered complementary to the indicators defined by IFRS.

 For more information on changes in the steering concept, see the Combined Management's Report from page 37 onward

Explanation of segments

The BASF Group's business is run by 11 divisions, structured in six segments:

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

The **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, thereby contributing to the organic growth of the BASF Group. In addition to internal transfers, the segment mainly serves customers in downstream industries, especially in the chemical and plastics industries. The segment's competitiveness is strengthened by technological leadership and operational excellence, process and product innovations as well as the development of sustainable technologies.

The **Materials** segment is composed of the Performance Materials and the Monomers divisions. The segment offers advanced materials and their precursors for new applications and systems. Its product portfolio includes isocyanates and polyamides as well as inorganic basic products and specialties for plastics and plastics processing. In addition to specific technological knowledge, industry expertise and customer proximity, particularly products that contribute to the circular economy as well as sustainable production methods help differentiate BASF from its competitors in this segment.

The **Industrial Solutions** segment consists of the Dispersions & Resins and the Performance Chemicals divisions. This segment develops and markets ingredients and additives for industrial applications, such as polymer dispersions, resins, electronic materials, antioxidants and additives. As part of the sustainability

strategy, this segment's focus is on the creation of more efficient production structures and processes that better conserve resources. Its customers come from key industries such as automotive, plastics and electronics.

The **Surface Technologies** segment bundles chemical solutions for surfaces in the Catalysts and Coatings divisions. Its portfolio range serves the automotive and chemical industries and includes catalysts, battery materials, automotive OEM and refinish coatings, surface treatment, and precious and base metal services. Innovations and solutions customized in collaboration with its customers in the field of sustainable mobility are growth drivers for this segment.

The **Nutrition & Care** segment comprises the Care Chemicals division and the Nutrition & Health division. This segment produces ingredients for consumer applications in the areas of nutrition, home and personal care. Its customers include food and feed producers as well as the pharmaceutical, cosmetics, and the detergent and cleaner industries. The segment's competitiveness is strengthened, among other things, by focusing on trends in digitalized business models and sustainability in the consumer goods markets. An example of the latter is the expansion of the portfolio with bio-based and biodegradable products.

The **Agricultural Solutions** segment consists of the division of the same name. As an integrated provider, its portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. Furthermore, Agricultural Solutions offers farmers innovative and sustainable solutions based on digital technologies combined with practical advice.

Other is comprised of the remaining businesses. These include commodity trading, engineering and other services, as well as rental income and leases. Discontinued operations and certain activities remaining after divestitures are also reported here.

The following activities are also presented under Other:

- The steering of the BASF Group by corporate headquarters.
- Cross-divisional corporate research, which includes plant biotechnology research, works on long-term topics of strategic importance to the BASF Group. Furthermore, it focuses on the development of specific key technologies, which are of overriding importance for the divisions.
- Trade with renewable energies as well as the activities of the Net Zero Accelerator unit, which bundles cross-company projects to achieve climate protection targets.
- Foreign currency results not allocated to the segments and measurement effects from the hedging of raw materials price and foreign currency exchange risks; as well as gains and losses from the long-term incentive programs (LTI programs).
- Remanent fixed costs resulting from organizational changes or restructuring that are not allocated to a division; idle capacity costs from internal human resource platforms; and consolidation effects that cannot be allocated to a division.

Income from operations (EBIT) of Other

Million €	2023	2022
Costs for cross-divisional corporate research	-250	-326
Costs of corporate headquarters	-222	-258
Other businesses	38	-46
Foreign currency results, hedging and other measurement effects	-29	33
Miscellaneous income and expenses	-315	74
Income from operations of Other	-778	-523

Income from operations of Other decreased by €256 million year on year to -€778 million. This resulted mainly from miscellaneous income and expenses, which in the previous year had included special income from the disposal of shares in the Hollandse Kust Zuid offshore wind farm. A special charge in the amount of €110 million arose in the current reporting year primarily for severance payments in connection with restructuring. Foreign currency results, hedging and other measurement effects were down by €62 million year on year, due mainly to lower gains on the valuation of commodity derivatives as well as expenses from the long-term incentive programs, following gains in the previous year. Improved income from other businesses as well as lower costs for corporate research had an offsetting effect.

Reconciliation of the assets of Other to the assets of the BASF Group

Million €

	December 31, 2023	December 31, 2022
Segment assets	63,002	67,670
Assets of businesses included in Other	2,252	2,713
Other financial assets and non-integral investments accounted for using the equity method	5,617	5,765
Deferred tax assets	617	880
Cash and cash equivalents / marketable securities	2,678	2,748
Defined benefit assets	170	792
Other receivables / prepaid expenses	3,060	3,906
Assets of Other	14,393	16,803
Assets of the BASF Group	77,395	84,472

Reconciliation of segment income to income before income taxes

Million €

	2023	2022
EBIT before special items of the segments	4,420	7,627
EBIT before special items of Other	-614	-749
EBIT before special items	3,806	6,878
Special items of the segments	-1,402	-556
Special items of Other	-164	226
Special items	-1,566	-330
EBIT of the segments	3,018	7,070
EBIT of Other	-778	-523
EBIT	2,240	6,548
Net income from shareholdings	-200	-4,939
Financial result	-620	-418
Income before income taxes	1,420	1,190

Segments 2023

Million €

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions	Other	BASF Group
Sales	10,369	14,149	8,010	16,204	6,858	10,092	3,220	68,902
Intersegment transfers	3,606	864	436	176	429	36	102	5,649
Sales including transfers	13,975	15,013	8,445	16,381	7,286	10,128	3,323	74,551
Income from integral companies accounted for using the equity method	92	14	12	80	3	–	-9	192
Income from operations before depreciation and amortization (EBITDA)	1,167	1,523	1,010	1,351	578	2,177	-626	7,180
Income from operations (EBIT)	364	378	660	366	119	1,131	-778	2,240
Assets	11,468	9,716	5,576	12,657	7,496	16,089	14,393	77,395
of which goodwill	204	191	629	2,319	858	3,236	62	7,499
other intangible assets	64	243	111	897	281	3,079	42	4,717
property, plant and equipment	7,251	4,950	1,919	3,560	3,264	2,145	991	24,080
integral investments accounted for using the equity method	890	201	12	504	35	–	413	2,054
Liabilities	2,798	3,730	1,755	2,685	2,296	3,462	24,024	40,750
Research and development expenses	83	185	150	304	150	900	356	2,130
Additions to property, plant and equipment and intangible assets (including acquisitions)	2,706	1,083	285	621	765	353	195	6,006
Depreciation and amortization of property, plant and equipment and intangible assets	803	1,146	349	986	459	1,046	153	4,941
of which impairments	23	337	13	411	5	354	6	1,149
reversals of impairments	6	1	0	0	–	–	–	6

Segments 2022

Million €

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions	Other	BASF Group
Sales	14,895	18,443	9,992	21,283	8,066	10,280	4,368	87,327
Intersegment transfers	4,860	1,742	507	198	588	40	139	8,074
Sales including transfers	19,754	20,186	10,499	21,481	8,654	10,320	4,508	95,401
Income from integral companies accounted for using the equity method	269	25	6	91	8	–	-14	386
Income from operations before depreciation and amortization (EBITDA)	2,771	2,660	1,443	1,264	1,055	1,922	-368	10,748
Income from operations (EBIT)	1,758	1,776	1,097	612	605	1,221	-523	6,548
Assets	10,481	10,864	6,318	14,899	8,038	17,071	16,803	84,472
of which goodwill	210	196	635	2,404	883	3,299	68	7,696
other intangible assets	64	565	142	1,024	322	3,414	45	5,577
property, plant and equipment	5,520	4,833	1,998	3,977	2,996	2,658	986	22,967
integral investments accounted for using the equity method	1,094	214	15	537	40	–	455	2,356
Liabilities	3,228	3,979	2,140	3,860	2,751	3,975	23,618	43,550
Research and development expenses	93	201	172	335	172	944	381	2,298
Additions to property, plant and equipment and intangible assets (including acquisitions)	1,701	880	322	740	642	414	268	4,967
Depreciation and amortization of property, plant and equipment and intangible assets	1,013	884	346	651	450	701	155	4,200
of which impairments	214	47	3	103	11	10	7	393
reversals of impairments	0	0	1	–	1	16	3	20

Regions 2023

Million €

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customer						
Sales	26,022	6,833	18,833	17,520	6,527	68,902
Share	% 37.8	9.9	27.3	25.4	9.5	100.0
Location of company						
Sales	27,631	11,449	19,003	17,142	5,126	68,902
Assets	36,019	22,498	19,236	17,617	4,524	77,395
of which intangible assets	5,303	2,786	5,393	1,243	277	12,216
property, plant and equipment	10,289	6,306	5,419	7,692	680	24,080
integral investments accounted for using the equity method	448	13	122	1,485	–	2,054
Additions to property, plant and equipment and intangible assets (including acquisitions)	2,367	1,463	934	2,580	125	6,006
Depreciation and amortization of property, plant and equipment and intangible assets including impairments and reversals of impairments	2,904	1,674	1,196	694	146	4,941

In the United States, sales to third parties in 2023 amounted to €16,128 million (2022: €21,319 million) according to location of companies and €15,764 million (2022: €20,585 million) according to location of customers. On December 31, 2023, the carrying amounts of intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €10,362 million (2022: €10,937 million) in the United States.

In China, sales to third parties in 2023 amounted to €8,950 million (2022: €11,216 million) according to location of companies and €8,893 million (2022: €11,022 million) according to location of customers. On December 31, 2023, the carrying amounts of intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €7,802 million (2022: €6,457 million) in China.

Regions 2022

Million €

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customer						
Sales	33,922	8,977	23,869	21,823	7,712	87,327
Share	% 38.8	10.3	27.3	25.0	8.8	100.0
Location of company						
Sales	35,821	15,170	24,343	21,309	5,854	87,327
Assets	40,343	25,296	20,600	18,689	4,841	84,472
of which intangible assets	5,910	3,041	5,697	1,371	295	13,273
property, plant and equipment	10,427	6,405	5,702	6,168	670	22,967
integral investments accounted for using the equity method	479	10	130	1,747	–	2,356
Additions to property, plant and equipment and intangible assets (including acquisitions)	2,173	1,321	1,032	1,621	141	4,967
Depreciation and amortization of property, plant and equipment and intangible assets including impairments and reversals of impairments	2,133	1,407	1,208	728	132	4,200

6 Earnings per share**Earnings per share**

		2023	2022
Income after taxes	Million €	379	-391
of which noncontrolling interests	Million €	154	236
Net income	Million €	225	-627
Weighted average number of outstanding shares	1,000	892,641	901,754
Dilution effect from BASF's "plus" incentive share program	1,000	2,436	1,573
Weighted average number of shares for diluted earnings per share	1,000	895,077	903,327
Earnings per share			
Basic	€	0.25	-0.70
Diluted	€	0.25	-0.70

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.

The average number of outstanding shares declined compared with 2022 due to the share buyback program in effect until

February 24, 2023. No dilutive effect arose from the issue of "plus" shares in 2023 or 2022.

For more information on the share buyback program, see Note 18 from page 277 onward and on page 200 in the Corporate Governance Report

7 Sales revenue

Accounting policies

Sales revenue from contracts with customers is recognized in the amount of the consideration BASF expects to receive in exchange for the goods or services when the customer obtains control of the goods or services. Control is considered to be transferred when the customer can direct the use of the goods or services and can obtain all substantial remaining benefits from them.

BASF primarily generates income from the sale of goods. Because the customer obtains control of the goods at a specific point in time, the corresponding sales revenue is recognized based on a given point in time. Determination of this point in time occurs in the context of an overall assessment of the circumstances which considers the existence of a present claim to payment, the legal title to the goods, actual physical possession of the goods, the transfer of risks and rewards as well as customer acceptance. The transfer of risks and rewards takes into account the underlying terms of delivery (especially Incoterms) and is of particular practical significance. According to these principles, sales revenue from the sale of goods is generally recognized upon delivery. If products are delivered to a consignment warehouse, BASF normally retains control of the goods. Accordingly, sales revenue is not recognized until the customer collects the goods from the consignment warehouse. Long-term supply agreements usually contain variable prices, which depend, among other factors, 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. Revenues from sales and usage-based royalties are recognized when the underlying sale or usage occurs.

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. Commodity swaps that do not lead to a transfer of economic control are eliminated.

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, among other things, 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.

Explanation of sales revenue

Sales by division and by indication and sector

Million €


	2023	2022
Petrochemicals	7,418	10,546
Intermediates	2,951	4,349
Chemicals	10,369	14,895
Performance Materials	7,244	8,567
Monomers	6,905	9,877
Materials	14,149	18,443
Dispersions & Resins	4,921	6,019
Performance Chemicals	3,088	3,973
Industrial Solutions	8,010	9,992
Catalysts	11,818	17,062
Coatings	4,387	4,220
Surface Technologies	16,204	21,283
Care Chemicals	4,721	5,619
Nutrition & Health	2,137	2,447
Nutrition & Care	6,858	8,066
Fungicides	3,047	2,977
Herbicides	3,380	3,568
Insecticides	1,041	1,057
Seed Treatment	662	806
Seeds & Traits	1,962	1,872
Agricultural Solutions	10,092	10,280
Other	3,220	4,368
BASF Group	68,902	87,327

Sales revenue of €44 million, that was included in contract liabilities as of January 1, 2023, was recognized in 2023 (2022: €43 million).

Sales revenue for the 2023 fiscal year includes €238 million from performance obligations satisfied in prior periods (2022: €175 million). This relates in particular to adjustments for sales and usage-based royalties as well as the reversal of over accruals for rebates and product returns from the previous year.

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, 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 242 onward

9 Other operating income and expenses

Other operating income

Million €

	2023	2022
Income from the adjustment and release of provisions recognized in other operating expenses	130	141
Revenue from miscellaneous other activities	248	180
Income from hedging transactions and LTI programs	90	177
Income from foreign currency transactions and the translation of financial statements in foreign currencies	66	58
Gains on divestitures and the disposal of noncurrent assets	116	301
Reversals of impairment losses on noncurrent assets	6	18
Income from the reversal of valuation allowances for business-related receivables	101	36
Gains/losses from precious metal trading	254	282
Income from refunds and government grants ^a	292	169
Other	686	447
Other operating income	1,990	1,808

^a Income from refunds and government grants previously included in Other was reported separately for the first time. The prior-year figures have been restated accordingly.

Income from the adjustment and release of provisions recognized in other operating expenses resulted in 2023 from the release of provisions for environmental measures in North America. As in the previous year, additional income resulted from release of provisions in connection with the restructuring of the Global Business Services unit. In addition, income resulted in both years from the adjustment to provisions for 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.

In both years, **revenue from miscellaneous other activities** primarily included income from rentals, catering operations, cultural events and logistics services. The rise in revenue over the previous year was largely compensated by higher production costs.

In 2023, **income from hedging transactions and LTI programs** mainly included income from the valuation of virtual and physical power purchase agreements in North America. A decline in income from hedging transactions for the procurement of natural gas was attributable to lower prices. Moreover, this item in the previous year had included income from the release of provisions for the long-term incentive (LTI) programs in the amount of €24 million. In 2023, by contrast, expenses were incurred for additions to these provisions.

Income from foreign currency transactions and the translation of financial statements in foreign currencies related to the translation of receivables and liabilities in foreign currencies and included income from the translation of companies' financial statements whose local currency is different from the functional currency.

Gains on divestitures and the disposal of noncurrent assets in 2023 were mainly from the sale of an office building in Europe and the divestiture of some smaller businesses. In 2022, this item

primarily consisted of gains on the sale of 51% of shares in the company holding the interest in the Hollandse Kust Zuid wind farm and the sale of the production site in Quincy, Florida.

For more information, see Note 3 from page 240 onward

The rise in **income from the reversal of valuation allowances for business-related receivables** was particularly due to the reversal of valuation allowances relating to a transaction tax in Brazil.

In both years, **income from refunds and government grants** was mainly attributable to grants for regional business developments in China and other funding measures in various countries. Additionally, reimbursements from the government in connection with a plant closure in 2019 occurred in 2023.

Other income included income from the sale of CO₂ certificates in the amount of €185 million in 2023. Income in both years related to gains from the sale of precious metals as well as multiple other items.

Other operating expenses

Million €

	2023	2022
Restructuring and integration measures	628	486
Environmental protection and safety measures, costs of demolition and removal, and project costs not subject to mandatory capitalization	530	411
Depreciation, amortization and impairments of noncurrent assets and of the disposal groups	1,163	409
Costs from miscellaneous revenue-generating activities	222	171
Expenses from hedging transactions and LTI programs	117	61
Losses from foreign currency transactions and the translation of financial statements in foreign currencies	366	326
Losses from divestitures and the disposal of noncurrent assets	73	51
Expenses from the addition of valuation allowances on business-related receivables	31	31
Expenses for derecognition of obsolete inventory	306	437
Other	785	901
Other operating expenses	4,221	3,283

In 2023, **expenses from restructuring and integration measures** related mainly to restructuring measures in connection with the cost savings program focusing on Europe, adjustments to production structures at the Verbund site in Ludwigshafen, Germany, and, as in the previous year, the carve-out of the BASF Environmental Catalyst and Metal Solutions unit within the Catalysts division. In both years, additional expenses were largely attributable to restructuring measures to improve competitiveness in various operating divisions and site closures in Europe and North America. Expenses also resulted in 2022 from the adjustment of business activities in Russia. In both years, expenses from integration measures related almost entirely to the integration of the battery materials business, which had been acquired in 2021.

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 €407 million in 2023 and €352 million in 2022, and related mainly to the site in Ludwigshafen, Germany, and the development of the new Verbund site in China in both years. Expenses for the battery materials business in Schwarzheide, Germany and Finland were also included in both years. Additionally, expenses of €123 million in 2023 and €59 million in 2022 arose from additions to environmental provisions which mainly concerned several discontinued sites in North America in both years.

Depreciation, amortization and impairments of noncurrent assets and of the disposal groups in 2023 included impairments in the amount of €1,149 million. These comprised impairments on property, plant and equipment in the Surface Technologies segment, especially in the battery materials business, on plants in the Agricultural Solutions segment and on property, plant and equipment and intangible assets in the Materials segment. In 2022, impairments amounted to €393 million relating primarily to plants in Ludwigshafen, Germany, and De Meern, Netherlands. Impairments

to construction in progress from discontinued investment projects were also included in both years.

 For more information, see Note 14 from page 264 onward

Costs from miscellaneous revenue-generating activities relate to the corresponding items presented in other operating income.

Expenses from hedging transactions and LTI programs in 2023 included expenses of €83 million and in 2022 of €61 million from hedging transactions, primarily attributable in both years to expenses for option premiums used to hedge natural gas purchases. Furthermore, expenses arose from changes in the fair value of currency derivatives and other hedging transactions. LTI programs led to expenses in the amount of €35 million in 2023. In the previous year, income resulted from the reversal of provisions for LTI programs.

In both years, **losses from divestitures and the disposal of noncurrent assets** were mainly in connection with the divestiture of the site in De Meern, Netherlands. Additional expenses in 2023 resulted from purchase price adjustments for divestitures in previous years as well as consulting costs.

In both years, **other expenses** included expenses for litigation, for REACH, for the provision of services and for warranties. Furthermore, other expenses for societal engagement arose in both years.

10 Investments accounted for using the equity method and other financial assets

Accounting policies

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. In the case of publicly listed associated companies, share prices are included in the impairment test and form the basis of valuation if there is an indication for permanent impairment or reversal of an impairment. Furthermore, earnings and the carrying amount are adjusted when accounting policies deviate or as a result of purchase price allocations, which primarily affects Wintershall Dea AG, Kassel/Hamburg, Germany.

Exploration and development expenses in the oil and gas business, for which the equity method is applied, are accounted for using the successful efforts method. Under this method, costs of successful exploratory drilling as well as successful and dry development wells are capitalized.

10.1 Integral companies accounted for using the equity method

Income from integral companies accounted for using the equity method

Million €

	2023	2022
Proportional income after taxes	196	388
of which joint ventures	180	362
associated companies	16	26
Other adjustments to income and expenses	-4	-2
of which joint ventures	-3	-2
associated companies	-1	0
Income from integral companies accounted for using the equity method	192	386

The material equity-accounted shareholding that is classified as integral is BASF-YPC Company Ltd., Nanjing, China, in which BASF and Sinopec each hold 50%, and which operates the Verbund site in Nanjing, China.

Income from integral companies accounted for using the equity method decreased by €194 million in 2023. Of the decrease, €175 million related to the shareholding in BASF-YPC Company Ltd. (joint venture) and €28 million to Markor Meiou Chemical (Xinjiang) Co., Ltd., Korla, China (associated company), primarily due to lower sales prices and volumes. Lucura

Versicherungs AG, Ludwigshafen am Rhein, Germany (associated company), which made a negative contribution to earnings in the previous year due to losses from the valuation of securities, has been fully consolidated since December 31, 2022.

Reconciliation of the carrying amounts of integral shareholdings accounted for using the equity method

Million €

	Joint ventures		Associated companies	
	2023	2022	2023	2022
Carrying amounts according to the equity method as of the beginning of the year	2,107	1,839	249	701
Proportional income after taxes and other adjustments to income and expenses	177	360	15	26
Proportional changes in other comprehensive income	-134	57	-11	-15
Total comprehensive income	43	417	4	11
Changes in the scope of consolidation and disposals	-10	-	-7	-363
Additions	-	382	-	40
Transfers	-297	-531	-34	-140
Carrying amounts according to the equity method as of the end of the year	1,842	2,107	212	249

Proportional changes in other comprehensive income included income and expense recognized directly in equity and related, in addition to currency effects, to changes in the fair value of derivatives in connection with long-term power supply agreements, particularly at the HKZ Investor Holding B.V. joint venture in Arnhem, Netherlands. The company holds shares in the Hollandse Kust Zuid offshore wind farm and manages the power supply agreements with the wind farm.

Changes in the scope of consolidation and disposals in 2023 resulted from the reclassification of Changchun Chemetall Chemicals Co., Ltd., Changchun, China, and in the previous year from Lucura Versicherungs AG, which has been fully consolidated since December 31, 2022. In addition, disposals in 2023 and 2022 included decreases in capital of the associated company, Yara Freeport LLC, Freeport, Texas.

Additions in 2022 mainly related to the shareholding in the HKZ Investor Holding B.V. joint venture.

Transfers primarily included dividend payments by BASF-YPC Company Ltd. (joint venture), Southeast Texas Pipelines LLC, Houston, Texas (joint venture), Heesung Catalysts Corporation, Seoul, South Korea (joint venture), and Markor Meiou Chemical (Xinjiang) Co., Ltd. (associated company) in both 2023 and 2022.

Additional information on the BASF-YPC Company Ltd. material integral investment accounted for using the equity method

Financial information on BASF-YPC Company Ltd., Nanjing, China (100%)

Million €

	December 31, 2023	December 31, 2022
Balance sheet		
Noncurrent assets	911	969
Current assets	838	1,224
of which marketable securities, cash and cash equivalents	261	416
Assets	1,749	2,193
Equity	1,492	1,874
Noncurrent liabilities	5	4
of which financial indebtedness	–	–
Current liabilities	252	315
of which financial indebtedness	–	–
Total equity and liabilities	1,749	2,193
Statement of income	2023	2022
Sales revenue	2,537	3,554
Amortization/impairment and reversals of impairments	-142	-143
Interest income	9	17
Interest expenses	–	-1
Income taxes	-25	-142
Income after taxes and other adjustments to income and expenses	76	428
Changes in other comprehensive income	-115	-49

Reconciliation of the carrying amount of the shareholding in BASF-YPC Company Ltd.

Million €

	2023	2022
BASF interest	50	50
Carrying amount as of the beginning of the year	938	1,148
Proportional income after taxes and other adjustments to income and expenses	38	213
Proportional changes in other comprehensive income	-58	-25
Capital increase	–	31
Dividends received	-172	-429
Carrying amount as of the end of the year	746	938

10.2 Non-integral companies accounted for using the equity method

Income from non-integral companies accounted for using the equity method

Million €

	2023	2022
Proportional income after taxes	-66	-3,514
Other adjustments to income and expenses	-48	-1,371
Income from non-integral companies accounted for using the equity method	-114	-4,885

The non-integral companies accounted for using the equity method are exclusively associated companies. The material non-integral shareholding is the Wintershall Dea AG oil and gas company, in which BASF holds a 72.7% share. The remaining shares are held by LetterOne. Wintershall Dea is classified as an associated company because, in addition to BASF and LetterOne, independent members are also represented in the board responsible for decisions about relevant activities and BASF can thus only exercise significant influence.

Stahl Lux 2 S.A., Luxembourg (BASF interest: 16.32%), and CIMO Compagnie industrielle de Monthey S.A., Monthey, Switzerland (BASF interest: 15%), are classified as associated companies as BASF is represented in the relevant boards and can thus exercise significant influence over the companies.

Income from non-integral companies accounted for using the equity method increased by €4,771 million in 2023 due primarily to a lower burden on earnings from Wintershall Dea AG. In 2022, expenses from the deconsolidation of Wintershall Dea shareholdings in Russia and impairments of assets primarily related to Russia were recognized in the total amount of €6,517 million (BASF interest after taxes). In 2023, however, income was

negatively impacted by the addition of restructuring provisions and the depreciation of the Argentine peso.

Values in use were determined in the impairment test in December 2023 for the assets held by Wintershall Dea for which purchase price adjustments exist at BASF level. The assumptions applied for production and cost trends as well as the price assumptions largely correspond with Wintershall Dea's. This did not lead to any material impairments or reversals of impairments.

The agreement with Harbour Energy plc (Harbour), London, United Kingdom, was reflected in the impairment test of the shareholding in Wintershall Dea: The value of the agreed

consideration (39.6% of shares in Harbour and \$1.56 billion in cash) was taken into account with regard to the assets and liabilities to be transferred to Harbour. The value contribution of the remaining activities is derived based mainly on the expected compensation values for the expropriated assets in Russia (considering various possible but not unlikely scenarios regarding reimbursement scope and payment timing), the anticipated gain on the sale of the shareholding in WIGA Transport Beteiligungs-GmbH & Co. KG, planned costs for the downsizing and ultimate closure of Wintershall Dea's head offices, and the cash position.

For more information on Wintershall Dea, see the chapter on Non-Integral Oil and Gas Business in the Combined Management's Report from page 97 onward

Reconciliation of the carrying amounts of non-integral associated companies accounted for using the equity method

Million €

	Associated companies	
	2023	2022
Carrying amounts according to the equity method as of the beginning of the year	4,645	9,843
Proportional income after taxes and other adjustments to income and expenses	-120	-4,885
Proportional changes in other comprehensive income	307	645
Total comprehensive income	187	-4,240
Changes in the scope of consolidation and disposals	-24	-
Additions	-	-
Transfers	-291	-958
Carrying amounts according to the equity method as of the end of the year	4,518	4,645

The **proportional changes of other comprehensive income** in 2023 included changes in the fair value of derivatives used to hedge gas prices and impairments of shareholdings in Russian companies which, pursuant to IFRS 9, were measured at fair value through other comprehensive income. Currency effects particularly arose in 2022 at Wintershall Dea. With the deconsolidation of the Russian shareholdings held by Wintershall Dea, total differences arising from currency translation of €868 million were reclassified as earnings to the income statement in 2022.

Changes in the scope of consolidation and disposals in 2023 resulted from adjustments to the scope of consolidation at Wintershall Dea and the sale of the shareholding in Quantafuel ASA, Oslo, Norway. In addition, disposals in 2023 included decreases in capital of the associated company, Stahl Lux 2 S.A., Luxembourg.

Transfers comprised Wintershall Dea's dividend payments in both years.

Additional information on the Wintershall Dea material non-integral investment accounted for using the equity method

The following table contains financial information on the Wintershall Dea material non-integral shareholding accounted for using the equity method, including adjustments for fair value made at initial recognition and the resulting effects on earnings.

Financial information on Wintershall Dea, Kassel/Hamburg, Germany (100%)

Million €

	December 31, 2023	December 31, 2022
Balance sheet		
Noncurrent assets ^a	236	15,697
Current assets	1,199	5,690
of which marketable securities, cash and cash equivalents	987	3,089
Assets of disposal groups	16,767	–
of which marketable securities, cash and cash equivalents	221	–
Assets	18,202	21,387
Equity attributable to shareholders of Wintershall Dea AG	2,670	2,832
Subordinate bonds issued by Wintershall Dea	1,525	1,525
Equity	4,195	4,357
Noncurrent liabilities	473	9,473
of which financial indebtedness	26	3,067
Current liabilities	574	7,557
of which financial indebtedness	176	1,356
Liabilities of disposal groups	12,960	–
of which financial indebtedness	3,126	–
Total equity and liabilities	18,202	21,387
Statement of income^b	2023	2022
Sales revenue	3,292	11,223
Depreciation and amortization/impairment and reversals of impairments	480	-1,571
Interest income	103	149
Interest expenses	-27	-7
Income taxes	-200	-352
Income after taxes and other adjustments to income and expenses from continuing operations	2	-6,382
Income after taxes and other adjustments to income and expenses from discontinued operations	-182	-293
Changes in other comprehensive income	424	882

^a The goodwill from fair value adjustments is reported in reconciliation of the carrying amount of the shareholding in Wintershall Dea.

^b The prior-year figures have been adjusted.

Reconciliation of the carrying amount of the shareholding in Wintershall Dea

Million €

	2023	2022
BASF interest in equity attributable to shareholders of Wintershall Dea AG %	72.7	72.7
Carrying amount as of the beginning of the year	4,364	9,583
of which proportional goodwill from fair value adjustments	2,306	1,992
Proportional income after taxes and other adjustments to income and expenses	-130	-4,853
Proportional changes in other comprehensive income	308	641
Dividends received	-291	-1,007
Carrying amount as of the end of the year	4,251	4,364
of which proportional goodwill from fair value adjustments	2,310	2,306

10.3 Other shareholding and financial assets

Net income from other shareholdings

Million €

	2023	2022
Dividends and similar income	44	26
Income from the disposal of / write-up of shareholdings	9	7
Income from profit transfer agreements / tax allocation to shareholdings	3	1
Income from other shareholdings	55	34
Expenses from loss transfer agreements	-68	-79
Write-downs on / losses from the sale of shareholdings	-73	-10
Expenses from other shareholdings	-141	-89
Net income from other shareholdings	-86	-55

Net income from other shareholdings in 2023 decreased year on year by €31 million due primarily to higher expenses from the measurement of shareholdings at fair value.

Carrying amounts of other financial assets

Million €

	Dec. 31, 2023	Dec. 31, 2022
Other shareholdings	536	539
Long-term securities	563	581
Other financial assets	1,099	1,120

The decline in **long-term securities** in 2023 resulted mainly from the sale of financial assets at Lucura Versicherungs AG, Ludwigshafen am Rhein, Germany.

11 Financial result

Financial result	2023	2022
Million €		
Interest income from cash and cash equivalents	299	186
Interest and dividend income from securities and loans	23	10
Interest income	322	196
Interest expenses	-860	-629
Interest result	-538	-433
Reversals of write-downs on / income from securities and loans	40	6
Net interest income from other long-term personnel obligations	–	13
Income from the capitalization of borrowing costs	80	40
Interest income on income taxes	76	124
Miscellaneous financial income	3	0
Other financial income	199	182
Write-downs on / losses from securities and loans	-11	-24
Net interest expense from underfunded pension plans and similar obligations	-85	-81
Unwinding the discount on other noncurrent liabilities	-18	-9
Interest expenses on income taxes	-8	-2
Miscellaneous financial expenses	-159	-52
Other financial expenses	-281	-168
Other financial result	-82	15
Financial result	-620	-418

Interest expenses rose primarily because of increased interest rates and the higher balance of financial indebtedness.

The rise in **reversals of write-downs on / income from securities and loans** resulted from the higher fair value measurement of securities.

Income from the capitalization of borrowing costs rose due to the higher borrowing cost rate and increased volume mainly from construction of the new Verbund site in Zhanjiang, China.

The rise in **other financial expenses** was primarily due to higher net expenses associated with the translation of bonds and the measurement of the corresponding hedging instruments against interest and currency risks.

12 Income taxes

Accounting policies

In Germany, a uniform corporate income tax rate of 15.0% as well as a solidarity surcharge of 5.5% thereon are levied on all distributed and retained earnings. In addition to corporate income tax, income generated in Germany is subject to a trade tax. It varies depending on the municipality in which the company is represented. The weighted average tax rate was 14.6% in 2023 (2022: 14.6%). The 30% rate used to calculate deferred taxes for German Group companies remained unchanged in 2023. The income of foreign Group companies is assessed using the tax rates applicable in their respective countries.

Deferred taxes are recorded for temporary differences between the carrying amount of assets and liabilities in the financial statements according to IFRS and the carrying amounts for tax purposes as well as for tax loss carryforwards and unused tax credits. These also comprise temporary differences arising from business combinations, with the exception of goodwill. Deferred tax assets and liabilities are calculated using the respective country-specific tax rates applicable for the period in which the asset or liability is realized or settled. Tax rate changes enacted or substantively enacted on or before the balance sheet date are taken into consideration.

Deferred tax assets are offset against deferred tax liabilities provided they are related to the same taxation authority. Surpluses of deferred tax assets are only recognized provided that the tax benefits are likely to be realized. The valuation of deferred tax assets is based on the assessment of the ability to utilize tax loss carryforwards and unused tax credits. This depends on whether future taxable profits will exist during the period in which temporary differences are reversed and in which tax loss carryforwards and unused tax credits can be claimed. The assessment of recoverability of deferred tax assets is based on internal projections of the future earnings of the particular Group company.

Changes in deferred taxes in the balance sheet are recorded as deferred tax expense or income unless the underlying transaction is recognized directly in equity or in income and expenses recognized in equity. For those effects which have been recognized in equity, changes to deferred tax assets and tax liabilities are also recognized directly in equity.

Deferred tax liabilities are recognized for differences between the proportional IFRS equity and the tax base of the investment in a consolidated subsidiary if a reversal of these differences is expected in the foreseeable future. Deferred tax liabilities are recognized for dividend distributions planned for the following year if these distributions lead to a reversal of temporary differences.

Provisions for German trade tax, corporate income tax and similar income taxes are calculated and recognized based on the expected taxable income of the consolidated companies less any prepayments that have been made. Provisions are set up for interest accrued. This interest is reported under other financial result, not tax expense. Other taxes to be assessed are considered accordingly.

IFRIC 23 clarifies the application of the recognition and measurement policies from IAS 12 when there is uncertainty regarding income tax-related treatment of individual transactions. They are accounted for with the assumption that tax authorities will examine the questionable transaction and have all relevant information. The amount of risk provisions is calculated and reviewed with consideration for the results of past tax audits as well as the legal assessment of not yet audited transactions and the risk of a deviating tax-related interpretation by the tax authorities. The most probable value of the individual risks is recognized.

BASF falls within the scope of the OECD Pillar Two Model Rules. The relevant Pillar Two legislation was enacted in Germany and will be applicable in the fiscal year beginning January 1, 2024. BASF

expects the application of the OECD Pillar Two Model Rules to result in an increase in taxes on income and earnings by a low to mid double-digit million euro amount since the relevant tax rate is under 15% in a small number of jurisdictions. The actual impact may differ from this projection.

BASF applies the exception in IAS 12 whereby no deferred tax assets or liabilities are recognized in connection with Pillar Two income taxes under the OECD Model Rules; nor are any disclosures made on the matter.

Tax expense and tax rate

The BASF Group tax rate amounted to 73.3% in 2023. It was impacted by non-recognition of deferred tax assets, especially in Germany. The higher tax rate from the previous year of 132.9% resulted mainly from non-tax-effective impairments of Wintershall Dea AG, which is accounted for using the equity method, particularly from the deconsolidation of its Russian exploration and production activities.

The tax effects of various underlying matters are presented in the following reconciliation of income taxes and the effective tax rate. This reconciliation was changed with respect to the expected tax rate from the previous 15% (the applicable corporate income tax rate in Germany) to 30% (a tax rate combining corporate income and trade tax). This is intended to better illustrate the effects of not recognizing deferred tax assets, because otherwise only the amounts relevant to corporate income tax would be included in the corresponding line. This change made a separate disclosure of trade tax and the solidarity surcharge superfluous. The prior-year figures were adjusted accordingly.

Tax expense

Million €

	2023	2022
Current tax expense	1,102	1,280
Corporate income tax, solidarity surcharge and trade taxes (Germany)	3	2
Foreign income tax	1,187	1,519
Taxes for prior years	-87	-240
Deferred tax expense (+) / income (-)	-61	300
From changes in temporary differences	-306	181
From changes in tax loss carryforwards/unused tax credits	-27	15
From changes in the tax rate	-1	0
From valuation allowances of deferred tax assets	273	105
Income taxes	1,041	1,580

Reconciliation of income taxes and the effective tax rate

	2023		2022	
	Million €	%	Million €	%
Income before income taxes	1,420		1,190	
Expected tax based on German tax rate (30%)	426	30.0	357	30.0
Foreign tax rate differential	-332	-23.3	-489	-41.1
Tax-exempt income	-128	-9.0	-194	-16.3
Nondeductible expenses	291	20.5	238	20.0
Income of companies accounted for using the equity method (income after taxes)	-23	-1.6	1,350	113.5
Taxes for prior years (current and deferred taxes)	-212	-14.9	-151	-12.7
Deferred tax liabilities for the future reversal of temporary differences associated with shares in participating interests	19	1.4	-55	-4.6
Changes in the tax rate	-1	-0.1	1	0.1
Non-recognition / valuation allowance of deferred tax assets	865	60.9	399	33.5
Other	135	9.5	124	10.5
Income taxes / effective tax rate	1,041	73.3	1,580	132.9

Deferred taxes are shown in the following table based on the corresponding balance sheet items.

Deferred taxes

Deferred tax assets and liabilities 2023

Million €

	January 1, 2023, net	Effects recognized in income	Effects recognized in equity (OCI)	Business combinations	Other	December 31, 2023, net	Deferred tax assets	Deferred tax liabilities
Intangible assets	-742	101	-35	0	-1	-678	67	-745
Property, plant and equipment	-1,377	-45	57	2	0	-1,363	147	-1,510
Financial assets	-21	44	-7	-	2	18	16	2
Inventories and accounts receivable	-672	33	38	-1	0	-602	365	-967
Provisions for pensions and similar obligations	789	-19	94	-	-1	862	992	-130
Other provisions and liabilities	976	165	-19	0	-1	1,122	1,390	-268
Tax loss carryforwards	370	-203	-4	0	0	163	163	-
Other	15	-20	-39	-	1	-43	9	-54
Deferred tax assets (liabilities) before netting	-663	56	84	0	0	-522	3,149	-3,671
Netting	-	-	-	-	-	-	-2,531	2,531
Deferred tax assets (liabilities) after netting	-663	56	84	0	0	-522	617	-1,140

Deferred tax assets and liabilities 2022

Million €

	January 1, 2022, net	Effects recognized in income	Effects recognized in equity (OCI)	Business combinations	Other	December 31, 2022, net	Deferred tax assets	Deferred tax liabilities
Intangible assets	-983	184	-9	1	66	-742	190	-932
Property, plant and equipment	-1,230	-46	-56	0	-45	-1,377	153	-1,530
Financial assets	-97	110	-4	-	-30	-21	19	-41
Inventories and accounts receivable	-333	-253	-23	-	-63	-672	246	-918
Provisions for pensions and similar obligations	2,075	-45	-1,244	-	2	789	1,141	-353
Other provisions and liabilities	1,081	-87	27	0	-45	976	1,258	-282
Tax loss carryforwards	580	-116	-6	-1	-87	370	370	-
Other	10	-47	-4	-	56	15	54	-39
Deferred tax assets (liabilities) before netting	1,101	-300	-1,319	0	-146	-663	3,431	-4,094
Netting	-	-	-	-	-	-	-2,551	2,551
Deferred tax assets (liabilities) after netting	1,101	-300	-1,319	0	-146	-663	880	-1,543

Deferred tax assets on deductible temporary differences in the amount of €1,057 million were not recognized in 2023 (2022: €466 million), as their utilization at reversal was not reasonably certain.

Undistributed earnings of subsidiaries resulted in temporary differences of €5,015 million in 2023 (2022: €8,699 million) for which deferred tax liabilities were not recognized, as they are either not subject to taxation on payout or they are expected to be reinvested for an indefinite period of time.

Tax loss carryforwards

No deferred tax assets were recognized for tax loss carryforwards of €9,062 million (of which €4,113 million relate to German corporate income tax and €4,376 million to German trade tax) in 2023 (2022: €3,260 million). Of these, €2 million will expire in 2024, €0 million in 2025, €0 million in 2026, €56 million in 2027, €135 million in 2028, and €5 million in 2029 and thereafter. The remaining €8,863 million will not expire.

Net surpluses of deferred tax assets for companies that reported tax losses in 2023 or 2022 totaled €254 million as of December 31, 2023 (December 31, 2022: €376 million). Deferred taxes were recognized because, due to planned earnings, the use of temporary differences or loss carryforwards is expected.

Tax liabilities

Tax liabilities primarily include assessed income taxes and other taxes as well as estimated income taxes not yet assessed for the current year.

13 Noncontrolling interests

Noncontrolling interests in profits and losses

Million €	2023	2022
Noncontrolling interests in profits	186	250
Noncontrolling interests in losses	-32	-14
Total	154	236

In 2023, **noncontrolling interests in profits** were lower and **noncontrolling interests in losses** were higher compared with the previous year, primarily at the BASF Shanshan companies in China due to the higher cost of raw materials.

Income and expenses recognized in equity that were attributable to noncontrolling interests totaled -€74 million in 2023 and €6 million in 2022. These effects mainly resulted from currency translation in both years.

Noncontrolling interests

Group company	Partner	December 31, 2023		December 31, 2022	
		Equity interest		Equity interest	
		%	Million €	%	Million €
BASF India Limited, Mumbai, India	Free float	26.67	90	26.67	81
BASF PETRONAS Chemicals Sdn. Bhd., Kuala Lumpur, Malaysia	PETRONAS Chemicals Group Berhad, Kuala Lumpur, Malaysia	40.00	226	40.00	215
BASF Shanghai Coatings Co., Ltd., Shanghai, China	Shanghai Huayi Fine Chemical Co., Ltd, Shanghai, China	40.00	111	40.00	103
BASF TODA Battery Materials, LLC, Yamaguchi, Japan	TODA KOGYO CORP., Hiroshima, Japan	34.00	38	34.00	38
BASF TotalEnergies Petrochemicals LLC, Houston, Texas	TotalEnergies Petrochemicals & Refining USA, Inc., Houston, Texas	40.00	268	40.00	242
BASF Shanshan Battery Materials Co., Ltd., Changsha, China	Ningbo Yongxiang Investment Co., Ltd., Ningbo, China	49.00	288	49.00	325
Shanghai BASF Polyurethane Company Ltd., Shanghai, China	Shanghai Hua Yi (Group) Co (SHYG), Shanghai, China, and Sinopec Shanghai Gaoqiao Petrochemical Company Limited, Beijing, China	30.00	148	30.00	132
Other			199		214
Total			1,368		1,350

14 Fixed assets

Accounting policies

Intangible assets

Goodwill is only written down in the case of an impairment. Impairment testing for goodwill is performed once a year and whenever there is an indication of impairment. Goodwill impairments are not reversed.

Acquired intangible assets (excluding goodwill) with defined useful lives are generally measured at cost less straight-line amortization and impairments. 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.

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.

Emission rights: Emission certificates, which are granted free of charge by the German Emissions Trading Authority (Deutsche Emissionshandelsstelle) or a similar authority in other countries, are recognized in the balance sheet with a value of zero. Emission rights purchased on the market are capitalized at cost and were reported as intangible fixed assets in 2022. Emission rights purchased on the market have been recognized under other receivables and miscellaneous assets since 2023. Emissions generated create an obligation to surrender the emission certificates. Intangible assets purchased on the market are subsequently measured at amortized cost. If the fair value is lower than the carrying amount on the balance sheet date, the emission rights are impaired.

Depending on the type of intangible asset, amortization is reported under cost of sales, selling expenses, research and development expenses or other operating expenses.

Property, plant and equipment

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.

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.

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. Movable and immovable property, plant and equipment are principally depreciated using the straight-line method.

Borrowing costs: If borrowing costs are directly incurred as part of the acquisition, construction or production of a qualifying asset, they are capitalized as part of the acquisition or production cost of that asset. A qualifying asset is an asset for which the process necessary to make it ready for its intended use or sale is longer than one year. Borrowing costs are capitalized up to the date the asset is ready for its intended use. Borrowing costs were calculated based on a rate of 1.75% (previous year: 1.25%) 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 for 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.

Impairment tests

Impairment tests are carried out on intangible assets, property, plant and equipment, and goodwill 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. In addition, goodwill is tested for impairment annually.

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 about 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) after taxes based on the capital asset pricing model, which is used in calculating the discount for cash flows, 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.

An impairment of assets (excluding goodwill) is recognized if the recoverable amount of the asset is lower than the carrying amount. An impairment is recognized for the difference between the carrying amount and the recoverable amount. If the reasons for impairment of an asset (excluding goodwill) 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.

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.

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. These include sales revenue (excluding precious metals), contribution margins, fixed costs and investments from which income from operations before depreciation and amortization and, based on this, the EBITDA margin are determined. Market assumptions regarding, for example, gas and raw materials prices, exchange rates, economic development, inflation expectations and market growth of the respective customer industries are included based on external macroeconomic and industry-specific sources.

In addition, planning is also based on the strategies of the individual strategic business units which comprise the respective cash-generating units. The digitalization and sustainability trends identified in the strategies are thus taken into account in the respective impairment tests.

For more information on strategy and identified digitalization and sustainability trends in the Combined Management's Report, see page 30 onward and page 48 onward

14.1 Explanation of intangible assets

The weighted average amortization periods of intangible assets were as follows:

Weighted average amortization in years

	2023	2022
Distribution and similar rights	14	13
Product rights, licenses and trademarks	18	18
Know-how, patents and production technologies	16	15
Internally generated intangible assets	6	6
Other rights and values	7	9

The following table shows the development of intangible assets.

Development of intangible assets 2023

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, 2023	2,441	1,346	4,435	296	898	8,490	17,904
Changes in the scope of consolidation	-	-	-	-	-	-	-
Additions	2	2	66	40	33	-	142
Additions from acquisitions	-	-	-	-	-	-	-
Disposals	-129	-18	-102	-13	-37	-8	-307
Transfers	-	-	-16	-	10	-	-6
Transfers to disposal groups	-	-	-	-	-	-	-
Currency effects	-69	-20	-86	-	-6	-214	-396
As of December 31, 2023	2,244	1,309	4,296	323	898	8,269	17,338
Accumulated depreciation							
As of January 1, 2023	1,301	279	1,636	180	442	794	4,632
Changes in the scope of consolidation	-	-	-	-	-	-	-
Additions	168	62	265	29	354	-	879
of which impairments	-	-	1	-	266	-	267
Disposals	-129	-18	-96	-13	-27	-	-283
Transfers	-	-	-1	-	1	-	-
Transfers to disposal groups	-	-	-	-	-	-	-
Currency effects	-37	-5	-35	-	-4	-24	-105
As of December 31, 2023	1,303	319	1,770	196	765	769	5,122
Net carrying amount as of December 31, 2023	940	990	2,526	127	132	7,499	12,216

^a Including licenses to such rights and values

Additions in 2023 related primarily to acquired know-how in the Agricultural Solutions division, acquired software licenses in the Chemicals segment, as well as internally developed software with no segment allocation.

Disposals of intangible assets with a gross carrying amount of €307 million primarily concerned fully amortized assets.

In 2023, additions to **accumulated amortization** contained impairments of €267 million. These related mainly to other rights in the Materials segment and resulted from changed market conditions which meant that the economic advantage of access to a precursor no longer applied. The cost of capital after taxes used to determine the relevant value in use was 8.60%, which is 10.08% before taxes.

Development of intangible assets 2022

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, 2022	2,547	1,419	4,304	268	949	8,314	17,802
Changes in the scope of consolidation	-1	-	-	-	0	-	-1
Additions	-	1	61	32	31	-	125
Additions from acquisitions	-	-	-	-	-	-	-
Disposals	-151	-107	-39	-11	-99	-13	-421
Transfers	0	0	-12	7	6	-	1
Transfers to disposal groups	-	-	-	-	0	-2	-2
Currency effects	45	32	120	0	11	191	400
As of December 31, 2022	2,441	1,346	4,435	296	898	8,490	17,904
Accumulated depreciation							
As of January 1, 2022	1,243	316	1,356	164	430	794	4,303
Changes in the scope of consolidation	0	-	-	-	0	-	0
Additions	188	64	284	27	88	-	652
of which impairments	1	-	2	-	0	-	4
Disposals	-151	-107	-37	-11	-83	-4	-393
Transfers	0	0	0	-	0	-	0
Transfers to disposal groups	-	-	-	-	-	-	-
Currency effects	21	5	34	0	6	3	70
As of December 31, 2022	1,301	279	1,636	180	442	794	4,632
Net carrying amount as of December 31, 2022	1,140	1,067	2,799	116	456	7,696	13,273

^a Including licenses to such rights and values

In both years, BASF's **goodwill** was allocated to 20 cash-generating units, which are defined either on the basis of business units or at a higher level.

The fundamental transformation of the automotive industry will have a significant impact on the emissions catalyst business, which belongs to the Catalysts (excluding battery materials) cash-generating unit. Because there were no material changes in planning assumptions from the previous year, the growth rate for perpetual annuity remained unchanged at -0.7%. In the planning period, the demand for catalysts is still expected to remain stable as a result of higher environmental standards. In the medium term, the transition from combustion engines to electromobility will lead to a steady decline in demand.

Increased volatility in gas and raw materials prices can be expected during the year due to geopolitical conflicts. Average gas and raw materials prices are however expected to remain stable over the next three years. These and other macroeconomic factors such as the high, albeit declining, level of inflation in industrial countries will be accounted for in future business expectations.

Goodwill of cash-generating units

Million €

Cash-generating unit	2023			2022		
	Goodwill	Weighted cost of capital after taxes	Growth rate ^a	Goodwill	Weighted cost of capital after taxes	Growth rate ^a
Agricultural Solutions division	3,236	6.52%	2.0%	3,299	5.97%	2.0%
Catalysts division (excluding battery materials)	1,297	8.14%	-0.7%	1,340	7.75%	-0.7%
Catalysts division (battery materials)	317	8.36%	2.0%	336	7.49%	2.0%
Personal Care Ingredients in the Care Chemicals division	504	7.06%	2.0%	516	6.53%	2.0%
Surface Treatment in the Coatings division	688	8.14%	2.0%	711	7.75%	2.0%
Performance Chemicals division	347	8.03%	2.0%	355	7.42%	2.0%
Other cash-generating units	1,109	6.47%–8.56%	0.0%–2.0%	1,139	6.53%–7.61%	0.0%–2.0%
Goodwill as of December 31	7,499			7,696		

^a Growth rates used in impairment tests to determine terminal values in accordance with IAS 36

The annual impairment tests of the 20 cash-generating units were performed in the fourth quarter of 2023. 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 6.47% and 8.56% (2022: between 5.97% and 7.75%). This corresponds to a weighted average cost of capital rate before taxes of between 8.12% and 11.33% (2022: between 6.96% and 10.80%).

An additional impairment test triggered by impairments recognized on plants was performed for the battery materials cash-generating unit on December 31, 2023, It did not lead to any impairments.

After determining the recoverable amounts for the cash-generating units, the conclusion was that reasonable possible deviations from the key assumptions would not lead to the carrying amount of any significant unit exceeding the respective recoverable amounts except in the two units in the Catalysts division, which is allocated to the Surface Technologies segment.

The recoverable amount for the Catalysts (excluding battery materials) cash-generating unit exceeded the carrying amount by €598 million in 2023. A weighted cost of capital after taxes of 8.14% (2022: 7.75%) and an EBITDA margin in the last detailed planning year were used as the basis for calculating the final value of 29.09% (2022: 29.60%) for the impairment test. The recoverable amount would be equal to the unit's carrying amount if the weighted average cost of capital rose by 1.06 percentage points or the EBITDA margin in the last detailed planning year as the basis for calculating the final value were 3.87 percentage points lower.

A weighted cost of capital after taxes of 8.36% (2022: 7.49%) and an EBITDA margin in the last detailed planning year as the basis for calculating the final value of 11.84% (2022: 10.15%) were used for the annual impairment test of the battery materials cash-generating unit. The recoverable amount for this unit exceeded the carrying amount by €397 million. The recoverable amount would be equal to the unit's carrying amount if the weighted average cost of capital rose by 1.01 percentage points, the growth rate were 1.64 percentage points lower, or the EBITDA margin in the last detailed planning year as the basis for calculating the final value were 1.74 percentage points lower.

14.2 Explanation of property, plant and equipment

The weighted average depreciation periods were as follows:

Weighted average depreciation in years

	2023	2022
Buildings and structural installations	18	17
Machinery and technical equipment	11	11
Miscellaneous equipment and fixtures	7	7

The following table shows the development of property, plant and equipment including right-of-use assets recognized by BASF as lessee.

Development of property, plant and equipment including right-of-use assets arising from leases in 2023

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	Total
Cost										
As of January 1, 2023	939	732	11,855	1,036	48,559	736	5,268	886	5,135	75,145
Changes in the scope of consolidation	-	-	-	-	-	-	0	-	-	0
Additions	1	2	187	169	808	84	180	353	4,080	5,864
Disposals	-35	-4	-183	-53	-995	-40	-241	-118	-100	-1,769
Transfers	1	-	477	-	1,604	-4	168	-	-2,251	-5
Transfers to disposal groups	-	-	-	-	-	-	-	-	-	-
Currency effects	-27	-34	-200	-23	-793	-18	-84	-10	-162	-1,352
As of December 31, 2023	878	695	12,136	1,129	49,184	759	5,291	1,112	6,701	77,884
Accumulated depreciation										
As of January 1, 2023	61	146	7,399	433	39,115	402	4,032	515	76	52,179
Changes in the scope of consolidation	-	-	-	-	-	-	0	0	-	-
Additions	2	35	525	172	2,372	97	394	185	280	4,063
of which impairments	1	13	149	46	355	4	27	2	280	877
Disposals	-13	-2	-157	-47	-961	-35	-231	-108	-85	-1,639
Transfers	0	0	3	0	4	-2	5	0	-10	0
Transfers to disposal groups	-	-	-	-	-	-	-	-	-	-
Currency effects	-1	-7	-105	-14	-593	-10	-62	-6	-1	-797
As of December 31, 2023	49	173	7,665	544	39,936	453	4,138	586	260	53,804
Net carrying amount as of December 31, 2023	829	522	4,471	585	9,247	306	1,153	526	6,440	24,080

For more information on leases, see Note 15 from page 272 onward

Additions to property, plant and equipment arising from investment projects (excluding leases) amounted to €5,255 million in 2023. Investments were made at the following sites in particular: Zhanjiang, China; Ludwigshafen, Germany; Geismar, Louisiana; Antwerp, Belgium; Schwarzheide, Germany; and Chalampé, France. Material investments included the development of infrastructure and technical equipment at the new Verbund site in Zhanjiang, China, construction of the hexamethylenediamine plant in Chalampé, France, construction of infrastructure and production plants for battery materials in Schwarzheide, Germany, as well as

modification and capacity expansion of the phosgene plant in Geismar, Louisiana. Investments also included modernization and expansion of the heating oil plant as well as modification of the acid chlorides and chloroformates plant in Ludwigshafen, Germany and construction and expansion of the ethylene oxide and polyethylene oxide production plants in Antwerp, Belgium. Government grants for funding investment measures reduced asset additions by €48 million.

In 2023, **impairments** of €883 million and reversals of impairments of €6 million were included in accumulated depreciation.

Impairments of €370 million were recognized for construction in progress and buildings (including right-of-use assets from buildings) as well as for technical equipment in the Surface Technologies segment. These impairments were due in particular to the delayed startup of production plants, as well as additional official requirements, and affected two sites in Europe, one of which was fully impaired. The value in use of the remaining partially

impaired plants was €448 million. A cost of capital rate after taxes of 8.36% was used in this impairment test. This corresponds to a cost of capital rate before taxes of 11.94%. Resulting from a deteriorated competitive situation, technical equipment at two sites in Europe in the Agricultural Solutions segment was written off in full in the amount of €334 million. Technical equipment in Europe allocated to the Materials segment was written off in full in the amount of €69 million due to reduced expected capacity utilization. Furthermore, an impairment relating primarily to buildings in the

Surface Technologies segment was recognized in the amount of €26 million due to the planned closure of a site in North America. The fair value of a building was used in the calculation.

Impairments to construction in progress in the amount of €33 million mainly related to discontinued investment projects.

Reversals of impairments in the amount of €6 million resulted primarily from the sale of a plant impaired at a site in Asia in 2020.

Transfers related mainly to the reclassification of operation-ready assets from construction in progress to other asset categories.

Currency effects reduced property, plant and equipment by €555 million and resulted especially from depreciation of the Chinese renminbi and the U.S. dollar against the euro.

Development of property, plant and equipment including right-of-use assets arising from leases in 2022

Million €

	Land	Right-of-use land	Buildings	Right-of-use buildings	Machinery and technical equipment	Right-of-use machinery and technical equipment	Miscellaneous equipment and fixtures	Right-of-use miscellaneous equipment and fixtures	Advance payments and construction in progress	Advance payments for right-of-use assets	Total
Cost											
As of January 1, 2022	905	544	11,495	982	46,781	624	5,058	756	3,735	150	71,030
Changes in the scope of consolidation	0	0	-17	-1	-3	0	-2	-1	0	-	-24
Additions	46	49	168	184	793	112	237	236	3,017	-	4,842
Disposals	-19	-2	-260	-153	-961	-23	-245	-117	-26	-	-1,805
Transfers	2	150	319	-8	1,153	0	143	0	-1,609	-150	0
Transfers to disposal groups	-4	-	-3	-	-7	-	-1	-	10	-	-5
Currency effects	9	-9	153	30	804	23	78	12	8	-	1,108
As of December 31, 2022	939	732	11,855	1,036	48,559	736	5,268	886	5,135	-	75,145
Accumulated depreciation											
As of January 1, 2022	54	125	7,115	408	37,138	316	3,833	435	53	-	49,477
Changes in the scope of consolidation	0	0	-16	-1	-3	-	-2	0	-	-	-22
Additions	12	23	416	133	2,258	96	377	177	57	-	3,549
of which impairments	11	-	36	2	257	0	7	-	57	-	369
Disposals	-8	-2	-219	-121	-922	-19	-230	-104	-22	-	-1,647
Transfers	0	0	6	-6	13	0	0	0	-13	-	0
Transfers to disposal groups	-1	-	0	-	0	-	0	-	-	-	-1
Currency effects	3	0	96	18	631	10	54	9	1	-	823
As of December 31, 2022	61	146	7,399	433	39,115	402	4,032	515	76	-	52,179
Net carrying amount as of December 31, 2022	878	585	4,456	603	9,444	333	1,236	371	5,059	-	22,967

15 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 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.

Leases in which BASF is a lessee mainly relate to real estate and transportation and technical equipment.

As lessee, BASF accounts for all leases, recognizing right-of-use assets for leased assets and liabilities for lease agreements subject to the following principles:

- 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 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.

Explanation of leases

BASF as lessee

Lease liabilities

Million €

	December 31, 2023			December 31, 2022		
	Lease liabilities	Interest portion	Future lease payments	Lease liabilities	Interest portion	Future lease payments
Following year 1	350	51	401	330	43	373
Following year 2	234	39	273	222	36	258
Following year 3	171	32	203	150	30	180
Following year 4	134	29	163	111	26	137
Following year 5	106	26	132	85	23	108
Over 5 years	654	174	828	591	171	762
Total	1,649	351	2,000	1,489	329	1,818

Expenses and income in the statement of income from leases for BASF as lessee

Million €

	2023	2022
Interest expenses for lease liabilities	-53	-40
Expenses for variable lease payments not included in the measurement of lease liabilities	-13	-33
Income from sublease agreements	2	20
Expenses for short-term leases	-151	-156
Expenses for leases for low-value assets	-35	-22
Total	-250	-231

There were no significant sale and leaseback transactions in 2023. BASF entered a five-year rental agreement for a building with the sale of the site in Tarrytown, New York, in 2022. The lease liabilities for this sale-and-leaseback transaction amounted to €9 million as of December 31, 2023.

BASF as lessor

BASF acts as a lessor for finance leases to a minor extent only. Receivables on finance leases were €33 million in 2023 (2022: €35 million). The leased assets pertained primarily to buildings and production facilities.

Claims arising from operating leases amounted to €254 million in 2023 (2022: €268 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 €

	Dec. 31, 2023	Dec. 31, 2022
Following year 1	49	46
Following year 2	40	39
Following year 3	38	39
Following year 4	37	38
Following year 5	36	37
Over 5 years	54	69
Total	254	268

Income from leases for BASF as lessor

Million €

	2023	2022
Income from finance leases	2	2
of which financial income from net investments	2	2
Income from operating leases	46	46
of which income from variable lease payments not dependent upon an index or interest rate	1	-
Total	48	48

16 Inventories

Accounting policies

Inventories are measured at acquisition cost or cost of conversion based on the weighted average method. If the sales products' market price or fair value based on net realizable value is lower, 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. Inventories may be impaired if the prices of 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.

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.

The exception made by IAS 2 for traders is applied to the measurement of precious metals. Accordingly, inventories held for trading purposes are measured at fair value less costs to sell and recognized in the precious metal trading item under miscellaneous current assets. All changes in value are immediately recognized in the statement of income.

Explanation of inventories

Inventories		
Million €		
	Dec. 31, 2023	Dec. 31, 2022
Raw materials and factory supplies	4,543	5,255
Work in progress, finished goods and merchandise	9,257	10,686
Advance payments and services in progress	75	87
Inventories	13,876	16,028

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 €37,222 million in 2023, and €48,836 million in 2022.

Write-downs on inventory were recognized in the amount of €5 million in 2023, and in the amount of €84 million in 2022.

The carrying amount of precious metal inventories held for trading purposes was €1,139 million as of December 31, 2023 (December 31, 2022: €1,939 million).

17 Receivables and miscellaneous assets

Other receivables and miscellaneous assets

Million €

	December 31, 2023		December 31, 2022	
	Noncurrent	Current	Noncurrent	Current
Loans and interest receivables	57	182	45	103
Derivatives with positive fair values	472	580	395	952
Receivables from finance leases	30	3	32	2
Receivables from capital equipment of nonconsolidated subsidiaries	45	142	43	153
Receivables from bank acceptance drafts	–	273	–	401
Other	327	292	298	391
Other receivables and assets that qualify as financial instruments	931	1,472	814	2,002
Prepaid expenses	76	225	44	285
Defined benefit assets	170	–	792	–
Receivables for income taxes	134	1,317	133	1,908
Employee receivables	0	29	0	24
Precious metal trading items	–	1,139	–	1,939
Other	28	322	27	434
Other receivables and assets that do not qualify as financial instruments	408	3,032	996	4,589
Other receivables and miscellaneous assets	1,339	4,504	1,810	6,591

The rise in noncurrent **derivatives with positive fair values** related primarily to power purchase agreements. The change in current derivatives with positive fair market values was largely attributable to the decline in fair values of precious metals commodity derivatives.

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.

Prepaid expenses in 2023 mainly included prepayments of €38 million related to operating activities compared with €45 million in 2022, as well as €72 million in prepayments for insurance in 2023 compared with €77 million in 2022. Prepayments for license costs increased from €55 million in 2022 to €59 million in 2023.

As in the previous year, **defined benefit assets** were recognized in 2023 mainly at Group companies in Switzerland and the United Kingdom. An asset ceiling was in effect in 2023 and in the previous year for the pension plans in Switzerland.

For more information on plan assets, see Note 21 from page 282 onward

The change in current **receivables for income taxes** was largely attributable to the decline in receivables for income tax refunds.

Precious metal trading items primarily comprise physical items, precious metal accounts as well as long positions in precious metals, most of which were hedged through forward sales or derivatives.

The decline in current **other receivables and assets, which do not represent financial instruments**, was due to lower advance payments.

The table below presents the gross values and credit risks for trade accounts receivable other than trade accounts receivable measured at fair value through profit or loss as of December 31, 2023.

Accounts receivable, trade

Million €

Creditworthiness as of December 31, 2023	Equivalence to external rating ^a	Gross carrying amounts
High/medium credit rating	from AAA to BBB-	6,436
Low credit rating	from BB- to D	3,930

a Standard & Poor's rating

There are currently no significant credit risks (or a concentration thereof) associated with other financial instruments.

Valuation allowances on receivables (financial instruments) 2023

Million €

	As of January 1, 2023	Additions	Releases	Reclassification between stages	Translation effect	As of December 31, 2023
Accounts receivable, trade	319	134	181	1	-4	269
of which stage 2	44	61	66	1	-2	38
stage 3	275	73	115	-	-2	231
Other receivables	118	58	-18	-	-1	157
of which stage 1	4	5	-2	-	0	7
stage 2	1	0	-1	-	0	0
stage 3	113	53	-15	-	-1	150
Total	437	192	163	1	-5	426

Payment terms are generally agreed upon individually with customers and, as a rule, are within 90 days. In 2023, valuation allowances of €134 million (2022: €130 million) were added for trade accounts receivable, and valuation allowances of €181 million (2022: €124 million) were reversed.

In 2023, valuation allowances of €58 million were recognized for **other receivables** representing financial instruments, and valuation allowances of €18 million were reversed. In the previous year, valuation allowances of €24 million were recognized and valuation allowances of €19 million were reversed.

For more information on valuation allowances on receivables, see Note 25 from page 291 onward

18 Capital, reserves and retained earnings

Subscribed capital

BASF SE has only issued fully paid-up registered shares with no par value. There are no preferential rights or other restrictions.

The subscribed capital of BASF SE as of December 31, 2023, was €1,142 million, divided into 892,522,164 qualifying shares with no par value. The share capital and the number of shares decreased in 2023 due to the redemption of acquired treasury shares in connection with the share buyback program; the subscribed capital as of December 31, 2022, was €1,144 million, divided into 893,854,929 shares.

Share buyback / treasury shares

By way of a resolution of the Annual Shareholders' Meeting of May 29, 2022, the Board of Executive Directors was authorized to buy back shares until May 28, 2027, 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.

The Board of Executive Directors is authorized to redeem the shares bought back without a further resolution of the Annual Shareholders' Meeting and to reduce the share capital by the proportion of the share capital accounted for by the redeemed shares. The Board of Executive Directors can also redeem the shares without reducing the share capital so that the proportion of the other shares in relation to the share capital is increased through the redemption. In that event, the Board of Executive Directors is authorized to adjust the number of shares in the Statutes.

Through buyback authorizations in 2023, BASF purchased a total of 1,332,765 shares (2022: 24,623,765 shares) or 0.15% (2022: 2.68%) of the share capital at an average price of €52.56 per share (2022: €53.83 per share) up to the end of the share buyback program on February 24, 2023. All repurchased shares were redeemed and the share capital was reduced accordingly. BASF did not hold any treasury shares as of the balance sheet date or December 31, 2022.

BASF's expenditure in 2023 for the share buyback totaled €70 million. The amount was taken from other retained earnings and also reduced subscribed capital by €2 million. This reduction was reclassified to capital reserves.

Authorized capital

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 had not been exercised as of the end of the 2023 fiscal year.

Conditional capital

At the Annual Shareholders' Meeting on April 29, 2022, the Board of Executive Directors was authorized, with the approval of the Supervisory Board, up to April 28, 2027, on a one-off basis or in portions on more than one occasion to issue bearer or registered convertible bonds and/or bonds with warrants or a combination of these instruments with or without maturity limitations with a total nominal value of up to €10 billion and to grant or impose holders and/or creditors of these debt instruments conversion or option rights for up to 91,847,800 registered shares in the company with a pro rata amount of share capital of up to €117,565,184 subject to the respective terms and conditions of the debt instruments. The debt instruments can be issued in exchange for contributions in cash, but also for contributions in kind, particularly shareholdings in other companies.

To hedge the subscription right to conversion and option rights issued under the authorization, the share capital was increased conditionally by up to €117,565,184 with the option of issuing a maximum of 91,847,800 new registered BASF shares. The conditional capital increase shall only be carried out to the extent to which holders of convertible bonds or warrants attached to bonds with warrants issued by the company or one of its subsidiaries up to April 28, 2027, under the authorization granted to the Board of Executive Directors, exercise their conversion or option rights and/or fulfill their conversion or option obligations, and provided that no other forms of fulfillment of delivery are used. The new BASF shares shall be issued at the conversion or option prices determined in each case in the terms and conditions of the debt instruments and/or the warrants in accordance with the above-mentioned authorization. The new BASF shares issued under this provision shall participate in profits from the beginning of the financial year in which they are issued. This authorization had not been exercised as of the end of the 2023 fiscal year.

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. In 2023, the valuation of BASF shares in connection with the BASF "plus" share program led to a decline in capital reserves of €9 million, compared with an increase of €9 million in the previous year.

The proportion of share capital accounted for by the redeemed treasury shares in 2023 was reclassified to capital reserves in 2023.

Retained earnings

Retained earnings include earnings generated in the past and in 2023 by companies included in the Consolidated Financial Statements.

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 2023, as in the previous year.

In connection with the share buyback, the amount in excess of the nominal value was deducted from retained earnings. Upon redemption of the shares, the previously openly deducted amounts were offset against share capital and retained earnings. Additionally, the value of share capital accounted for by the redeemed shares was reclassified from retained earnings to capital reserves. This resulted in a total reduction of retained earnings of €70 million in 2023 and €1,325 million in 2022.

Retained earnings

Million €

	Dec. 31, 2023	Dec. 31, 2022
Legal reserves	1,066	1,032
Other retained earnings	31,450	34,422
Retained earnings	32,517	35,453

Legal reserves rose by €35 million in 2023 and by €74 million in 2022 due to reclassifications from retained earnings.

In 2023, the amount of €59 million from the remeasurement of defined benefit plans was reclassified to retained earnings.

Payment of dividends

In accordance with the resolution of the Annual Shareholders' Meeting on April 27, 2023, BASF SE paid a dividend of €3.40 per qualifying share from the retained profit of the 2022 fiscal year. With 892,522,164 qualifying shares as of the Annual Shareholders' Meeting, this represented total dividends of €3,034,575,357.60. The remaining €814,148,142.03 in retained profits was allocated to retained earnings.

19 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

In 2023, changes in the value of defined benefit plans led to a decrease in other comprehensive income of €591 million (after taxes) of which €16 million related to investments accounted for using the equity method. In the previous year, there was a rise of €2,586 million (after taxes); of that amount, €83 million related to investments accounted for using the equity method. Deferred taxes amounted to €100 million in 2023 and to -€1,256 million in 2022.

 For more information on the remeasurement of defined benefit plans, see Note 21 from page 282 onward

Currency translation

Differences resulting from currency translation led to a decrease in equity by a total of €1,220 million in 2023; of that amount, €234 million related to investments accounted for using the equity method. In the previous year, an increase resulted in the amount of €1,135 million; of that amount, €583 million related to investments accounted for using the equity method. These amounts included €12 million in deferred taxes in 2023 (2022: -€7 million). In 2023, the difference resulted mainly from the depreciation of the Chinese renminbi and the U.S. dollar, and, in 2022, from the appreciation of the U.S. dollar and the Brazilian real relative to the euro.

With the deconsolidation of the Russian shareholdings held by Wintershall Dea AG, Kassel/Hamburg, Germany, total differences arising from currency translation of €868 million were reclassified as earnings to the income statement in 2022.

Measurement of securities at fair value

Measurement of securities at fair value in 2023 led to a decrease in other comprehensive income of €172 million (2022: -€16 million). This was due to impairments of equity instruments measured at fair value through other comprehensive income pursuant to IFRS 9 in the amount of €180 million at Wintershall Dea AG, Kassel/Hamburg, Germany, which is accounted for using the equity method.

Cash flow hedges

Changes in the fair value of derivatives designated in hedging relationships (cash flow hedges) adjusted for deferred taxes in the amount of €8 million (2022: -€8 million) increased equity by a total of €570 million (2022: -€33 million). In 2023, €588 million (2022: €37 million) was attributable to the hedging of future cash flows at shareholdings accounted for using the equity method.

 For more information on cash flow hedge accounting, see Note 25.5 from page 303 onward

20 Liabilities

Financial indebtedness

Million €

	Currency	Nominal value (million, currency of issue)	Effective interest rate	Carrying amounts based on effective interest method	
				December 31, 2023	December 31, 2022
BASF SE					
Commercial paper	USD	700		–	654
0.925% Bond 2017/2023	USD	850	0.83%	–	795
0.101% Bond 2020/2023	EUR	1,000	0.14%	–	1,000
0.875% Bond 2016/2023	GBP	250	1.06%	–	281
2.500% Bond 2014/2024	EUR	500	2.60%	500	499
1.750% Bond 2017/2025	GBP	300	1.87%	345	337
0.875% Bond 2018/2025	EUR	750	0.97%	749	748
3.675% Bond 2013/2025	NOK	1,450	3.70%	129	138
0.750% Bond 2022/2026	EUR	1,000	0.82%	999	998
0.250% Bond 2020/2027	EUR	1,000	0.32%	998	997
0.875% Bond 2017/2027	EUR	1,000	1.04%	994	992
3.125% Bond 2022/2028	EUR	750	3.27%	746	745
2.670% Bond 2017/2029	NOK	1,600	2.69%	142	152
0.875% Bond 2019/2029	EUR	250	1.01%	248	248
4.000% Bond 2023/2029	EUR	500	4.08%	498	–
1.500% Bond 2018/2030	EUR	500	1.63%	496	496
1.500% Bond 2016/2031	EUR	200	1.58%	199	199
1.500% Bond 2022/2031	EUR	1,000	1.53%	998	997
0.875% Bond 2016/2031	EUR	500	1.01%	495	495
2.370% Bond 2016/2031	HKD	1,300	2.37%	151	156
4.250% Bond 2023/2032	EUR	500	4.30%	498	–
3.750% Bond 2022/2032	EUR	750	3.85%	745	744
1.450% Bond 2017/2032	EUR	300	1.57%	297	297
3.000% Bond 2013/2033	EUR	500	3.15%	494	494
2.875% Bond 2013/2033	EUR	200	2.96%	199	198
4.000% Bond 2018/2033	AUD	160	4.24%	97	100
4.500% Bond 2023/2035	EUR	500	4.54%	498	–
1.625% Bond 2017/2037	EUR	750	1.73%	740	739
3.250% Bond 2013/2043	EUR	200	3.27%	200	200
1.025% Bond 2018/2048	JPY	10,000	1.03%	64	71

Continued on next page

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Financial indebtedness

Million €

				Carrying amounts based on effective interest method		
		Currency	Nominal value (million, currency of issue)	Effective interest rate	December 31, 2023	December 31, 2022
3.890%	U.S. private placement series A 2013/2025	USD	250	3.92%	226	234
4.090%	U.S. private placement series B 2013/2028	USD	700	4.11%	633	655
4.430%	U.S. private placement series C 2013/2034	USD	300	4.45%	271	281
BASF Finance Europe N.V.						
3.625%	Bond 2018/2025	USD	200	3.69%	181	187
0.750%	Bond 2016/2026	EUR	500	0.88%	498	497
Other bonds					112	116
Bonds and other liabilities to the capital market					14,438	15,743
Liabilities to credit institutions					4,830	3,273
Financial indebtedness					19,268	19,016

Breakdown of financial indebtedness by currency

Million €

	Dec. 31, 2023	Dec. 31, 2022
Euro	15,408	13,790
U.S. dollar	1,735	3,258
Chinese renminbi	424	57
Pound sterling	345	619
Norwegian krone	271	290
Japanese yen	221	102
Hong Kong dollar	151	156
Australian dollar	97	100
South African rand	80	63
Brazilian real	64	85
Turkish lira	60	74
Indian rupee	60	176
Indonesian rupiah	48	52
Thai baht	39	51
Argentine peso	7	128
Other currencies	260	15
Total	19,268	19,016

Maturities of financial indebtedness

Million €

	Dec. 31, 2023	Dec. 31, 2022
Following year 1	2,182	3,844
Following year 2	1,904	1,300
Following year 3	2,681	1,918
Following year 4	2,383	2,177
Following year 5	1,818	2,381
Following year 6 and maturities beyond this year	8,300	7,395
Total	19,268	19,016

Other bonds

Other bonds consisted 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 2023. Its remaining term to maturity is 54 months.

Liabilities to credit institutions

Liabilities to credit institutions increased from €3,273 million as of December 31, 2022, to €4,830 million as of December 31, 2023. The weighted average interest rate on loans amounted to 4.2% in 2023, compared with 5.7% in 2022.

Unused credit lines

BASF SE had committed and unused credit lines, when drawn with variable interest rates, amounting to €6,000 million as of December 31, 2023 (2022: €9,350 million). In 2023, BASF Integrated Site (Guangdong) Co. Ltd., China, signed a 40 billion Chinese renminbi syndicated bank term loan facility with a maturity of 15 years for its Verbund site in Zhanjiang, and had utilized an amount of 1 billion Chinese renminbi (€127 million) as of December 31, 2023. When drawn, the interest rate is variable.

Other liabilities

Million €

	December 31, 2023		December 31, 2022	
	Noncurrent	Current	Noncurrent	Current
Derivatives with negative fair values	135	192	93	294
Liabilities from leases	1,299	350	1,159	329
Loan and interest liabilities	16	415	21	425
Advances received on orders	–	779	–	926
Miscellaneous liabilities	45	560	52	781
Other liabilities that qualify as financial instruments	1,496	2,297	1,325	2,756
Liabilities related to social security	39	100	49	100
Employee liabilities	23	335	22	297
Liabilities from precious metal trading positions	–	43	–	56
Contract liabilities	141	36	176	37
Deferred income	19	38	16	53
Miscellaneous liabilities	21	82	18	70
Other liabilities that do not qualify as financial instruments	243	635	282	612
Other liabilities	1,739	2,931	1,606	3,368

Other liabilities

The majority of **contract liabilities** have terms of up to five years. Of the contract liabilities reported as of December 31, 2023, €36 million are expected to be recognized as revenue in 2024.

For more information on financial risks and derivative instruments, see Note 25 from page 291 onward

For more information on liabilities arising from leases, see Note 15 from page 272 onward

Carrying amounts of assets used to secure liabilities

Million €

	Dec. 31, 2023	Dec. 31, 2022
To secure		
liabilities to credit institutions	13	15
accounts payable, trade	4	3
other liabilities	41	51
Carrying amounts of assets used	58	69

Liabilities to credit institutions were secured primarily with registered land charges. Secured **other liabilities** relate primarily to derivatives with negative fair values that are secured with other receivables and miscellaneous assets.

21 Provisions for pensions and similar obligations**Economic and legal environment of the plans**

In addition to state pension plans, most employees are granted company pension benefits from either defined contribution or defined benefit plans. Benefits generally depend on years of service, contributions or compensation, and take into consideration the legal framework of labor, tax and social security laws of the countries where the companies are located. To limit the risks of changing financial market conditions as well as demographic developments, employees have, for a number of years now, been almost exclusively offered defined contribution plans for future years of service.

The Group Pension Committee monitors the risks of all pension plans of the Group with regard to the financing of pension commitments and the portfolio structure of existing plan assets. The organization, responsibilities, strategy, implementation and reporting requirements are documented for the units involved.

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.

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 guarantee 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.

Accounting policies

With regard to pensions and similar obligations, a distinction is made between defined benefit and defined contribution plans. In the case of defined contribution plans, current contributions are recognized as an expense.

In the case of defined benefit obligations, provisions for pensions are calculated on an actuarial basis in accordance with the projected unit credit method. Assumptions relating to the following valuation parameters, among others are used: future developments in compensation, pensions and inflation, employee turnover, and the life expectancy of beneficiaries. Actuarial reports are used to calculate the amount of pension provisions. Obligations are discounted based on the market yields on high-quality corporate fixed-rate bonds. Pension provisions are recognized as a net defined benefit liability if the discounted benefit obligation exceeds the plan assets used to cover it.

A plan asset surplus exists if a defined benefit plan's assets exceed the plan's obligations. IAS 19 requires the employer to test any such surplus for impairment. If no economic benefit (for example, reduced contributions or a refund) to the company is present, an asset ceiling must be reported. Such an asset ceiling was applied to the BASF Group's Swiss pension plans in 2022 and 2023.

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.

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.

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 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. 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. The expected contribution payments and benefits paid over the course of the fiscal year are taken into account when determining net interest.

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.

Description of the defined benefit plans

The following section describes the typical plan structure in the individual countries. Different arrangements may exist, in particular due to the assumption of plans as part of acquisitions; however, these do not have any material impact on the description of plans in the individual countries.

Germany

For BASF SE and German Group companies, a basic level of benefits is provided by BASF Pensionskasse VVaG, a legally independent plan, which is financed by employer and employee contributions as well as the return on plan assets. BASF SE ensures the necessary contributions to adequately finance the benefits promised by BASF Pensionskasse VVaG. Some of the benefits financed via BASF Pensionskasse VVaG are subject to adjustments that must be borne by its member companies to the extent that these cannot be borne by BASF Pensionskasse VVaG due to the regulations imposed by the German supervisory authority. In 2004, the basic benefit plan was closed for newly hired employees at German BASF companies and replaced by a defined contribution plan. A new defined contribution plan was introduced as of July 1, 2021, for new hires in the German BASF companies. At BASF SE, occupational pension promises that exceed the basic level of benefits are financed under a contractual trust arrangement by BASF Pensionstreuhand e.V.; at German Group companies, these benefits are financed primarily via pension provisions. As of 2022, new employees receive a securities-based pension award while other employees are granted benefits primarily based on cash balance plans. Furthermore, employees are given the option of participating in various deferred compensation schemes.

United States

Employees are granted benefits based on defined contribution plans.

Effective 2010, the existing defined benefit plans were closed to further increases in benefits based on future years of service, and benefits earned in the past were frozen. There is no entitlement to pension adjustments to compensate for cost-of-living increases.

The legal and regulatory frameworks governing the plans are based on the U.S. Employee Retirement Income Security Act (ERISA), which requires the plan sponsor to ensure a minimum funding level. Any employer contributions necessary to meet the minimum funding level are based on the results of an actuarial valuation. Furthermore, there are unfunded pension plans that are not subject to ERISA requirements.

Additional similar obligations arise from plans that assume the healthcare costs and life insurance premiums of retired employees and their dependents. Such plans have been closed to new entrants since 2007. In addition, the amount of the benefits for such plans has been frozen.

Switzerland

The employees of the BASF Group in Switzerland receive a company pension, which is financed through a pension fund by employer and employee contributions as well as the return on plan assets. The pension plans are accounted for as defined benefit plans, as the obligatory minimum pension guaranteed by law under the Swiss Pension Fund Act (BVG) is included in the scheme. All benefits vest immediately. According to government regulations, the employer is obligated to make contributions, so that the

pension funds are able to grant the minimum benefits guaranteed by law. The pension funds are managed by boards, where employer and employees are equally represented, which steer and monitor the benefit plans and asset allocation.

United Kingdom

Employees are granted benefits based on a defined contribution plan.

The BASF Group also maintains defined benefit plans in the United Kingdom, which have been closed for further increases based on future years of service. Adjustments to compensate for increases in the cost of living until the beginning of retirement are legally required for beneficiaries of defined benefit plans.

The financing of the pension plans is determined by the provisions of the regulatory authority for pensions and the relevant social and labor law requirements. The defined benefit plans are administered by a trust company, whose Board of Trustees, according to the trustee agreement and law, represents the interests of the beneficiaries and ensures that the benefits can be paid in the future. The required funding is determined using technical valuations according to local regulations every three years.

Other countries

For Group companies in other countries, defined benefits are covered in some cases by pension provisions, but mainly by external insurance companies or pension funds.

Actuarial assumptions

The valuation of the defined benefit obligation is based on the following key assumptions:

Actuarial assumptions %	Assumptions used to determine the defined benefit obligation as of December 31								Assumptions used to determine expenses for pension benefits in the respective business year							
	Germany		United States		Switzerland		United Kingdom		Germany		United States		Switzerland		United Kingdom	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Discount rate	3.20	3.70	5.00	5.30	1.30	2.20	4.50	4.80	3.70	1.10	5.30	2.70	2.20	0.40	4.80	2.00
Projected pension increase	2.20	2.20	–	–	–	–	3.20	3.40	2.20	1.60	–	–	–	–	3.40	3.50

The determination of discount rates for material pension obligations in Germany, the United States, Switzerland and the United Kingdom is based on a standard model, the Willis Towers Watson RATE:Link model.

The majority of domestic pension obligations are subject to legally required regular adjustments to current pension payments based on interim inflation developments. The last pension adjustment was on January 1, 2022. As of December 31, 2023, a cumulative inflation rate of 15.00% since the last pension adjustment was assumed (December 31, 2022: 10.00%). The long-term inflation assumption was adjusted in 2022 from 1.60% to 2.20% and left unchanged in 2023.

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; these were last updated in 2019 for the pension obligations in Germany and in 2021 for the pension obligations in Switzerland. The actuarial mortality tables for the pension obligations in United States were adjusted in 2022.

Actuarial mortality tables (significant countries) as of December 31, 2023

Germany	Heubeck Richttafeln 2018G (modified)
United States	Pri-2012 base mortality tables with Scale MP-2021 projection
Switzerland	BVG 2020 generational with CMI 2018 mortality improvement
United Kingdom	S2PxA (standard actuarial mortality tables for self-administered plans (SAPS))

Sensitivity analysis

A change in the material actuarial assumptions would have the following effects on the defined benefit obligation:

Sensitivity of the defined benefit obligation as of December 31

Million €	Increase by 0.5 percentage points		Decrease by 0.5 percentage points	
	2023	2022	2023	2022
	Discount rate	-1,303	-1,305	1,459
Projected pension increase	1,026	985	-867	-846

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 €	2023	2022
Expenses for defined benefit plans	235	357
Expenses for defined contribution plans	330	344
Expenses for pension benefits (recognized in income from operations)	565	701
Net interest expense from underfunded pension plans and similar obligations	136	102
Net interest income from overfunded pension plans	-65	-21
Unwinding the discount on asset ceiling	10	–
Expenses for pension benefits (recognized in the financial result)	81	81

Development of defined benefit obligations

Million €	2023	2022
Defined benefit obligation as of January 1	21,670	28,629
Current service cost	235	373
Past service cost	0	2
Settlements / plan adjustments	-16	-12
Interest cost	811	379
Benefits paid	-1,118	-1,126
Employee contributions	36	37
Actuarial gains/losses	1,415	-6,800
of which adjustments relating to financial assumptions	1,291	-7,712
adjustments relating to demographic assumptions	-28	-12
experience adjustments	152	924
Addition of defined benefit plans that so far have been accounted for as defined contribution plans	156	-
Other changes	0	-4
Currency effects	24	192
Defined benefit obligation as of December 31	23,213	21,670

Effects from **plan settlements** resulted in 2023 primarily from the transfer of benefit entitlements and the corresponding assets from the pension plan in Canada to an external insurer. In 2022, effects from **plan adjustments** were based on the conversion of a final salary plan to a defined contribution plan for future years of service in the Netherlands.

As of December 31, 2023, the weighted average duration of the defined benefit obligation amounted to 12.9 years (previous year: 13.2 years).

Development of plan assets

Million €	2023	2022
Plan assets as of January 1	20,083	23,130
Standardized return on plan assets	740	300
Deviation between actual and standardized return on plan assets	670	-2,641
Employer contributions	140	144
Employee contributions	36	37
Benefits paid	-995	-1,009
Settlements / plan adjustments	-17	-
Addition of defined benefit plans that so far have been accounted for as defined contribution plans	155	-
Other changes	-10	-21
Currency effects	79	143
Plan assets as of December 31	20,880	20,083

Through continuous monitoring of financing requirements of its pension plans, BASF strives to achieve the necessary yields to fill financing gaps over the course of time. Company contributions for 2024 are currently expected to be around €200 million. In 2023, two plans previously recognized as defined contribution plans at Belgian Group companies were included in the calculation of the defined benefit obligation and plan assets due to the fact that recourse to the employer was no longer unlikely. The resulting additional net obligation of €1 million is immaterial.

Development of net defined benefit liability

Million €	2023	2022
Net defined benefit liability as of January 1	-2,018	-5,499
Current service cost	-235	-373
Past service cost	-	-2
Settlements / plan adjustments	-1	12
Interest cost	-811	-379
Standardized return on plan assets	740	300
Deviation between actual and standardized return on plan assets	670	-2,641
Actuarial gains/losses of the defined benefit obligation	-1,415	6,800
Benefits paid by unfunded plans	123	117
Employer contributions	140	144
Addition of defined benefit plans that so far have been accounted for as defined contribution plans	-1	-
Other changes	-10	-17
Currency effects	54	-49
Change of asset ceiling for plan assets	38	-431
Net defined benefit liability as of December 31	-2,726	-2,018
of which defined benefit assets	170	792
provisions for pensions and similar obligations	2,896	2,810

Regional allocation of defined benefit plans as of December 31

Million €

	Pension obligations		Plan assets		Asset ceiling		Net defined benefit liability	
	2023	2022	2023	2022	2023	2022	2023	2022
Germany	16,563	15,219	14,687	14,108	–	–	-1,876	-1,111
United States	2,726	2,876	1,853	1,977	–	–	-873	-899
Switzerland	1,738	1,561	2,140	2,007	-393	-431	9	15
United Kingdom	1,296	1,260	1,409	1,368	–	–	113	108
Other	890	754	791	623	–	–	-99	-131
Total	23,213	21,670	20,880	20,083	-393	-431	-2,726	-2,018

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 in U.K. and U.S. plans, and as of 2023, in Germany as well.

Structure of plan assets

%

	2023	2022
Equities	19	21
Debt instruments	45	42
of which for government debtors	19	16
for other debtors	26	26
Real estate	8	7
Alternative investments	27	29
Cash and cash equivalents	1	1
Total	100	100

The asset class **debt instruments** comprises promissory notes and debentures (Pfandbriefe) as well as corporate and government bonds. Government bonds primarily relate to bonds from countries with very high credit ratings, such as the United States, the United Kingdom, Germany, France and Switzerland. Government bonds from emerging countries are also held to a limited extent. Corporate bonds mainly comprise bonds from creditworthy debtors, although particular high-yield bonds are also held to a limited extent. In connection with the continuous monitoring of default risk based on a given risk budget and on the observation of the development of the creditworthiness of issuers, the plan asset allocation may be adjusted in the case of a revised market assessment. **Alternative investments** largely comprise investments in private and infrastructure equity, absolute return funds and senior secured loans.

Almost all of the **equities** are priced on active markets. The category **debt instruments** includes promissory notes and debentures (Pfandbriefe) acquired through private placements with a market value in the amount of €262 million as of December 31, 2023, and €138 million as of December 31, 2022. For such securities, especially those held by domestic pension plans, there is no active market. There is also no fungible market price for the additional amount of €4,380 million, especially in the category of **alternative investments** and **real estate**. The capital market compensates for this lack of fungibility with yield premiums depending on the maturity.

Plan assets as of the balance sheet date did not include any significant volumes of securities issued by BASF Group companies in 2023 or 2022. The market value of the properties of legally independent pension funds rented to BASF Group companies was €115 million as in the previous year.

The retrospective initial fund loan BASF SE temporarily provided to BASF Pensionskasse VVaG in 2021 was increased by €100 million to a nominal value of €320 million in 2022.

The funding of the plans was as follows:

Current funding situation of the pension plans as of December 31

Million €

	2023		2022	
	Defined benefit obligation	Plan assets	Defined benefit obligation	Plan assets
Unfunded pension plans	1,954	–	1,963	–
Funded pension plans	21,259	20,880	19,707	20,083
Asset ceiling	–	-393	–	-431
Total	23,213	20,487	21,670	19,652

Asset ceiling

As in the previous year, an asset ceiling was applied to pension plans in Switzerland in 2023 in accordance with IAS 19.64 in the amount of €393 million.

Development of asset ceiling

Million €

	2023	2022
Limit on plan assets on January 1	431	–
Interest expense on unrecognized portion of plan assets	10	–
Change in limit excluding interest cost (remeasurement)	-69	431
Currency translation	21	–
Limit on plan assets on December 31	393	431

Defined contribution plans and government pensions

The contributions to defined contribution plans recognized in income from operations amounted to €330 million in 2023 and €344 million in 2022.

Contributions to government pension plans were €612 million in 2023 and €601 million in 2022.

22 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.

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. Financing costs related to unwinding the discount of provisions in subsequent periods are shown in other financial result.

Provisions for **restoration obligations** include expected costs 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 **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 for similar measures as well as for obligations to surrender emission certificates.

Provisions for **employee obligations** primarily consist of variable compensation including associated social security contributions, as well as obligations for granting long-service bonuses. The latter are predominantly calculated based on actuarial principles.

Provisions for **obligations from sales and purchase contracts** largely comprise obligations arising from rebates granted and other price discounts in the Agricultural Solutions segment, warranties and product liabilities, sales commissions and losses from onerous contracts.

Provisions for **restructuring measures** include severance payments to departing employees or similar personnel expenses as well as expected costs for site closures, including 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 **litigation, damage claims and similar obligations** contain anticipated expenses from lawsuits in which BASF is the defendant party, as well as obligations under damage claims against BASF and fines. In order to determine the amount of the provisions, the company takes into consideration the facts related to each case, the size of the claim, compensation awarded in

similar cases and independent expert advice as well as assumptions regarding the probability of a successful claim and the range of possible claims. Actual costs can deviate from these estimates.

For more information, see Note 23 on page 290

Noncurrent provisions were discounted at a rate between 2.2% and 3.5% (2022: between 1.0% and 2.2%).

Explanation of other provisions

Other provisions				
Million €				
	December 31, 2023		December 31, 2022	
		Of which current		Of which current
Restoration obligations	125	3	158	16
Environmental protection and remediation costs	948	135	946	135
Employee obligations	1,299	844	1,945	1,522
Obligations from sales and purchase contracts	1,793	1,731	1,658	1,618
Restructuring measures	92	83	144	121
Litigation, damage claims, and similar obligations	173	77	125	56
Other	467	342	473	331
Total	4,898	3,214	5,448	3,799

The decrease in provisions for **employee obligations** was mainly attributable to lower accruals for variable compensation components.

The increase in provisions for **obligations from sales and purchase contracts** resulted from higher accruals for rebate programs.

The decrease in provisions for **restructuring measures** was mainly attributable to lower accruals for severance payments.

Other includes interest on noncurrent tax provisions, as well as various other items.

The following table shows the development of other provisions by category. Other changes include changes in the scope of consolidation, acquisitions, divestitures, currency effects and the reclassification of obligations to liabilities when the amount and timing of these obligations become known.

Development of other provisions in 2023

Million €

	January 1, 2023	Additions	Unwinding of discount	Utilization	Releases	Other changes	December 31, 2023
Restoration obligations	158	2	3	-6	-30	-3	125
Environmental protection and remediation costs	946	123	11	-80	-39	-13	948
Employee obligations	1,945	949	4	-1,458	-109	-32	1,299
Obligations from sales and purchase contracts	1,658	1,643	-	-1,314	-130	-64	1,793
Restructuring measures	144	53	-	-81	-23	-1	92
Litigation, damage claims and similar obligations	125	90	0	-30	-34	21	173
Other	473	255	2	-208	-56	2	467
Total	5,448	3,115	21	-3,176	-421	-90	4,898

23 Risks from litigation and claims

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 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 and perfluorooctane sulfonate. 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 is a defendant in over 4,200 lawsuits as of January 2024 and is defending against these claims.

At this time, BASF cannot predict the outcome of resolving these matters or what potential actions may be taken by regulatory agencies. An adverse outcome could be material to BASF's financial results.

Furthermore, BASF SE and its affiliated companies are defendants in or parties to a variety of legal or regulatory proceedings on a recurring basis. To our current knowledge, none of these proceedings will have a material effect on the economic situation of BASF.

24 Other financial obligations

The figures listed below are stated at nominal value:

Other financial obligations		
	Dec. 31, 2023	Dec. 31, 2022
Bills of exchange	1	5
Guarantees	30	41
Warranties	30	33
Collateral granted on behalf of third-party liabilities	-	1
Initiated investment projects	11,064	13,982
of which purchase commitments	4,474	5,019
for the purchase of intangible assets	9	10
Payment and loan commitments and other financial obligations	301	293

BASF SE provides a guarantee to Abu Dhabi National Oil Corporation covering all obligations of Wintershall Dea Middle East GmbH related to the Ghasha concession in the United Arab Emirates. Furthermore, BASF SE assumed guarantees to the Danish Energy Agency covering all obligations of Wintershall Dea International GmbH and Wintershall Noordzee B.V. related to licenses for exploration and production of hydrocarbons in the Danish concession area. The guarantees do not stipulate a

maximum amount. The risk of a claim being exercised against the guarantees is classified as low.

Obligations arising from purchase contracts

Obligations from purchase contracts resulted primarily from long-term purchase obligations for raw materials as well as supply agreements for energy from renewable sources.

 For more information on long-term energy supply agreements, see the chapter on Energy and climate protection in the Combined Management's Report from page 102 onward

Obligations arising from purchase contracts

Million €

	Dec. 31, 2023	Dec. 31, 2022
Following year 1	7,726	9,353
Following year 2	4,088	2,703
Following year 3	3,195	2,150
Following year 4	3,084	2,058
Following year 5	1,968	1,975
Following year 6 and maturities beyond this year	9,621	8,876
Total	29,681	27,116

25 Supplementary information on financial instruments

25.1 Accounting policies

Financial assets and financial liabilities are recognized in the consolidated balance sheet when the BASF Group becomes a party to a financial instrument. Financial assets are derecognized when BASF no longer has a contractual right to the cash flows from the financial asset or when the financial asset is transferred together with all material risks and rewards of ownership and BASF does not have control of the financial asset after it has been transferred. For example, receivables are derecognized when they are definitively found to be uncollectible such as in the event of concluded insolvency proceedings. Financial liabilities are derecognized when the contractual obligations expire, are discharged or cancelled. Regular-way purchases and sales of financial instruments are accounted for using the settlement date; in precious metal trading, the trade date is used.

The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. If pricing on an active market is available, for example in the form of exchange prices, these are used as the basis for the measurement. Otherwise, the measurement is based on either internal measurement models using current market parameters or external measurements, for example, from banks. These internal measurements rely predominantly on the net present value method and option pricing models. These models incorporate, for example, expected future cash flows as well as discount factors adjusted for term and, potentially, risk. Depending on the availability of market parameters, BASF assigns financial instruments' market values one of the three levels of the fair value hierarchy pursuant to IFRS 13. Reassignment to a different level during a fiscal year is only carried out if the availability of observable market parameters for identical or similar items changes.

If the level 3 fair values calculated at the time of initial recognition using a valuation model, differ from the transaction price, the differences are deferred and reported in the balance sheet together with the positive or negative fair value of the respective financial instrument according to the valuation model. The differences are amortized over the terms of the contracts using the straight-line method.

The classification and measurement of financial assets is based on the one hand on the cash flow condition (the "solely payments of principal 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 measured at fair value through profit or loss** include all financial assets whose cash flows are not solely payments of principal and interest in accordance with the cash flow condition established in IFRS 9. At BASF, derivatives, for example, are allocated to this measurement category. In general, BASF does not exercise the fair value option in IFRS 9, which permits the allocation of financial instruments not to be measured at fair value through profit or loss on the basis of the cash flow condition or the business model criterion to the above category under certain circumstances.

– **Financial assets measured at amortized cost** include all assets with contractual terms that give rise to cash flows on specific dates, provided that these cash flows are solely payments of principal and interest on the principal amount outstanding in accordance with the cash flow condition in IFRS 9, to the extent that the asset is held with the intention of collecting the expected contractual cash flows over its term. At BASF, this measurement category includes trade accounts receivable, as well as receivables reported under other receivables and miscellaneous assets and certain securities.

Initial measurement of these assets is generally at fair value, which usually corresponds to the transaction price at the time of acquisition or, in the case of trade accounts receivable, to the transaction price pursuant to IFRS 15. Subsequent measurement effects are recognized in income using the effective interest method.

Impairments are recognized for expected credit losses at both initial and subsequent measurement, even before the occurrence of any default event. Counterparties are generally considered to default when they become insolvent, become a debtor in a creditor protection program or are in a finance-related legal dispute with BASF, or more than half of BASF's receivables portfolio with them is more than 90 days overdue. In these cases, individual impairments are recognized for the financial assets measured at amortized cost that are then considered to be credit impaired.

The extent of expected credit losses is determined based on the credit risk of a financial asset, as well as any changes to this credit risk: If the credit risk of a financial asset has increased significantly since initial recognition, expected credit losses are generally recognized over the lifetime of the asset. If, however, the credit risk has not increased significantly in this period, impairments are generally only recognized as 12-month expected credit losses. By contrast, under the simplified approach for determining expected credit losses permitted by IFRS 9, impairments for receivables such as lease receivables and trade accounts receivable always cover the lifetime expected credit losses of the receivable concerned.

At BASF, the credit risk of a financial asset is assessed using both internal information and external rating information on the respective counterparty. A significant increase in the counterparty's credit risk is assumed if its rating is lowered by a certain number of notches. It is generally assumed that the credit risk for a counterparty with a high credit rating will not have increased significantly.

Regional and, in certain circumstances, industry-specific factors and expectations are taken into account when assessing the extent of impairment as part of the calculation of expected credit losses and individual impairments. In addition, BASF uses internal and external ratings and the assessments of debt collection agencies and credit insurers, when available. Individual impairments are also based on experience relating to customer solvency and customer-specific risks. Factors such as credit insurance, which covers a portion of receivables measured at amortized cost, are likewise considered when calculating impairments. Bank guarantees and letters of credit are used to an immaterial extent. Expected credit losses and individual impairments are only calculated for those receivables that are not covered by insurance or other collateral. Impairments on receivables whose insurance includes a deductible are not recognized in excess of the amount of the deductible.

A decrease in impairment due, for example, to a reduction in the credit risk of a counterparty or an objective event occurring after the impairment is recorded in profit or loss. Reversals of impairments may not exceed amortized cost, less any expected future credit losses.

– **Financial assets measured 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, trade accounts receivable that are available for sale as part of a factoring agreement are allocated to this category. Additionally, certain securities that are reported as other financial assets or marketable securities are allocated to this category. BASF does not exercise the option to subsequently measure equity instruments through other comprehensive income. Assets measured at fair value through other comprehensive income are initially measured at fair value, which usually corresponds to the transaction price of the receivables and 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 measured 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 value. To this end, future underlying transactions and the corresponding hedging instruments are designated in a cash flow hedge accounting relationship for accounting purposes. The effective portion of the change in fair value of the hedging instrument, which often meets the definition of a derivative, and the cost of hedging are recognized directly in equity under other comprehensive income over the term of the hedge, taking deferred taxes into account. The ineffective portion is recognized immediately in the income statement. In the case of future transactions that lead to recognition of a nonfinancial asset or a nonfinancial liability, the cumulative fair value changes of the hedge in equity are generally charged against the cost of the hedged item on its initial recognition. For hedges based on financial assets, financial liabilities or future transactions, cumulative fair value changes of the hedges are transferred from equity to the income statement in the reporting period in which the hedged item is recognized in the income statement. The maturity of the hedging instrument is aligned with the effective date of the future transaction.

When **fair value hedge** accounting is used, the asset or liability recognized is hedged against the risk of a change in fair value. The hedging instruments used, which often take the form of a derivative, are measured at fair value and changes in fair value are recognized in the statement of income. The carrying amounts of the assets or liabilities designated as the underlying transaction are also measured at fair value through the statement of income.

25.2 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 €165 million as of December 31, 2023. 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 €310 million. A 5% appreciation of the respective functional currency would have resulted in a negative effect on BASF's income before income taxes in the amount of €156 million (–€293 million applying 10% appreciation) as of December 31, 2022. The effect from the items designated under hedge accounting would have reduced shareholders' equity before income taxes by €3 million applying 5% appreciation to the functional currency and by €2 million applying 10% appreciation to the functional currency as of December 31, 2023 (2022: increase

of €15 million applying 5% appreciation to the functional currency and increase of €32 million applying 10% appreciation to the functional currency). This only refers to transactions in U.S. dollars in both years.

Exposure and sensitivity by currency

Million €

	December 31, 2023			December 31, 2022		
	Exposure	Sensitivity		Exposure	Sensitivity	
		+5%	+10%		+5%	+10%
USD	1,872	-124	-229	1,643	-93	-170
Other	924	-44	-84	987	-47	-90
Total	2,796	-168	-313	2,630	-141	-260

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 25.5. 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 -€427 million as of December 31, 2023 (2022: -€2,441 million). An increase in all relevant interest rates by one half of a percentage point would have raised income before income taxes by €2 million as of December 31, 2023. An increase in all relevant interest rates by one percentage point would have raised income before income taxes by €3 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 €7 million as of December 31, 2022 (an increase of one percentage point would have lowered income before income taxes by €15 million).

Because no interest derivatives were designated in hedge accounting relationships as of December 31, 2023, a change in interest rates would not have had an effect on shareholders' equity. There were also no interest derivatives designated in a hedge accounting relationship as of December 31, 2022.

Carrying amounts of nonderivative interest-bearing financial instruments

Million €

	December 31, 2023		December 31, 2022	
	Fixed interest rate	Variable interest rate	Fixed interest rate	Variable interest rate
Loans	158	108	75	92
Securities	367	19	155	208
Financial indebtedness	17,116	2,152 ^a	16,428	2,588 ^a

^a Including fixed rate bonds maturing in the following year

Nominal and fair values of combined interest rate and currency swaps

Million €

	December 31, 2023		December 31, 2022	
	Nominal value	Fair value	Nominal value	Fair value
Combined interest rate and currency swaps	3,960	157	3,427	265
of which fixed rate	3,960	157	3,427	265

Central benchmark interest rates were comprehensively revised as part of what is known as the IBOR reform. Accordingly, the interest rates affected by the reform were phased out and replaced by new ones. Publication of all GBP, EUR, CHF and JPY LIBORs as well as USD LIBORs with maturities of one week and two months was discontinued as of December 31, 2021. Publication of the remaining USD LIBORs was discontinued in 2023.

With the discontinuation of publication of the remaining USD LIBORs, no financial liabilities or financial assets associated with contracts yet to be adjusted were identified as of December 31, 2023. As of December 31, 2022, financial liabilities in the amount

of €61 million and financial assets in the amount of €43 million associated with contracts yet to be adjusted were identified. No derivatives were identified that are associated with contracts yet to be adjusted in either year.

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 metals. BASF takes the following measures to reduce price risks associated with the purchase of raw materials:

- BASF uses derivatives to hedge the risks 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 and battery metal producers. It also buys 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 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 and unhedged oil product 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 holds several physical power purchase agreements (physical PPAs) with terms of up to 25 years. Under the physical PPAs, BASF procures electricity and associated green electricity certificates, known as guarantees of origin (GoOs). If BASF can consume in full the electricity provided through the physical PPAs, these fall under the own use exemption and are therefore not recognized as derivatives in the balance sheet even when electricity and green electricity certificates are purchased at a fixed price. Additionally, BASF also holds physical PPAs in the USA and Asia; the electricity from these PPAs cannot be consumed in full due to major deviations between supply profiles and consumption patterns. The electricity forward agreements embedded in them are not eligible for the own use exemption and are recognized as derivatives at fair value through profit or loss if electricity is purchased at a fixed price. In contrast to electricity, green electricity certificates obtained from physical PPAs recognized as derivatives can be stored and consumed at a later date. Thus, they continue to fall under the own use exemption even if purchased at a fixed price. In the event of adverse changes in energy market prices, valuation of the electricity forward agreements for physical PPAs can lead to negative effects on BASF's earnings.

Furthermore, BASF holds several virtual power purchase agreements (virtual PPAs) in the United States with terms of up to 15 years. The electricity forward agreements embedded in virtual PPAs are recognized separately as derivatives at fair value through profit or loss. In the event of adverse changes in energy market prices, measurement of electricity forward agreements at fair value can lead to negative effects on BASF's earnings.

BASF performs value-at-risk analyses for all commodity derivatives and precious metal trading positions. Value at risk continuously measures the market price risk and quantifies the loss that is not exceeded by a specific confidence level during a defined holding period. BASF bases the value-at-risk calculation on a confidence interval of 95% and a holding period of one day. BASF applies the variance-covariance method to calculate value at risk.

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.

Risk positions from commodity derivatives not eligible for the own use exemption

Million €

	December 31, 2023		December 31, 2022	
	Exposure	Value at Risk	Exposure	Value at Risk
Crude oil, oil products and natural gas	129	15	388	23
Precious metals	94	1	46	2
Agricultural commodities	76	0	87	0
Electricity and green electricity certificates	918	28	228	4

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 173 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 17 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 sufficient liquid funds from the ongoing commercial paper program and confirmed lines of credit from banks.

25.3 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, 2023

Million €

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Accounts payable, trade	Derivative liabilities	Miscellaneous liabilities	Total
2024	816	1,775	6,738	361	736	10,428
2025	1,935	345	1	95	277	2,654
2026	1,771	1,239	2	4	203	3,220
2027	2,260	437	–	1	163	2,861
2028	1,740	366	–	1	132	2,239
2029 and thereafter	8,264	1,095	–	95	830	10,283
Total	16,786	5,258	6,741	557	2,341	31,684

Maturities of contractual cash flows from financial liabilities as of December 31, 2022

Million €

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Accounts payable, trade	Derivative liabilities	Miscellaneous liabilities	Total
2023	3,058	1,143	8,429	295	700	13,625
2024	821	817	2	29	262	1,931
2025	1,956	280	3	65	180	2,484
2026	1,783	908	–	1	137	2,829
2027	2,271	585	–	1	108	2,965
2028 and thereafter	10,211	305	–	14	763	11,293
Total	20,100	4,038	8,434	405	2,150	35,127

25.4 Classes and categories of financial instruments

Carrying amounts and fair values of financial instruments as of December 31, 2023

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	536	536	FVTPL	0	–	0	–
Receivables from finance leases	33	33	n. a.	33	–	–	–
Accounts receivable, trade	9,817	9,817	AC	9,817	–	–	–
Accounts receivable, trade	286	286	FVTOCI	286	–	286	–
Accounts receivable, trade	312	312	FVTPL	312	–	312	–
Derivatives – no hedge accounting	810	810	FVTPL	955	5	752	198 ^g
Derivatives – hedge accounting	242	242	n. a.	242	–	242	–
Other receivables and miscellaneous assets ^f	4,669	1,229	AC	1,229	–	–	–
Other receivables and miscellaneous assets ^f	89	89	FVTPL	89	–	89	–
Securities	39	39	AC	39	–	–	–
Securities	325	325	FVTOCI	325	234	91	–
Securities	253	253	FVTPL	253	252	1	–
Cash equivalents	20	20	FVTPL	20	20	–	–
Cash and cash equivalents	2,605	2,605	AC	2,605	–	–	–
Total assets	20,035	16,595		16,204	510	1,773	198
Bonds	14,438	14,438	AC	13,876	12,468	1,407	–
Commercial paper	–	–	AC	–	–	–	–
Liabilities to credit institutions	4,830	4,830	AC	4,582	–	4,582	–
Liabilities from leases	1,649	1,649	n. a.	1,649	–	–	–
Accounts payable, trade	6,741	6,741	AC	6,741	–	–	–
Derivatives – no hedge accounting	309	309	FVTPL	251	11	288	-48 ^h
Derivatives – hedge accounting	18	18	n. a.	18	–	18	–
Other liabilities ^f	2,694	1,816	AC	1,816	–	–	–
Total liabilities	30,679	29,801		28,933	12,479	6,295	-48

a In general, only significant shareholdings are measured at fair value. All insignificant shareholdings are measured at cost (carrying amount: €536 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 25.1 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.

g The carrying amount of the electricity forward agreements reported in the balance sheet under other receivables and miscellaneous assets is €53 million after subtracting the differences of €145 million described on page 300.

h The carrying amount of the electricity forward agreements reported in the balance sheet under other liabilities is €10 million after subtracting the differences of €58 million described on page 300.

Carrying amounts and fair values of financial instruments as of December 31, 2022

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	539	539	FVTPL	0	–	0	–
Receivables from finance leases	34	34	n. a.	34	–	–	–
Accounts receivable, trade	11,787	11,787	AC	11,787	–	–	–
Accounts receivable, trade	268	268	FVTPL	268	–	268	–
Derivatives – no hedge accounting	1,030	1,030	FVTPL	1,054	1	1,021	32 ^g
Derivatives – hedge accounting	317	317	n. a.	317	–	317	–
Other receivables and miscellaneous assets ^f	6,931	1,346	AC	1,346	–	–	–
Other receivables and miscellaneous assets ^f	89	89	FVTPL	89	–	89	–
Securities	25	25	AC	25	–	–	–
Securities	120	120	FVTOCI	120	42	78	–
Securities	668	668	FVTPL	668	204	464	–
Cash equivalents	447	447	FVTPL	447	447	–	–
Cash and cash equivalents	2,069	2,069	AC	2,069	–	–	–
Total assets	24,324	18,739		18,224	694	2,237	32
Bonds	15,088	15,088	AC	13,946	12,533	1,413	–
Commercial paper	654	654	AC	654	–	–	–
Liabilities to credit institutions	3,273	3,273	AC	3,175	–	3,175	–
Liabilities from leases	1,488	1,488	n. a.	1,488	–	–	–
Accounts payable, trade	8,434	8,434	AC	8,434	–	–	–
Derivatives – no hedge accounting	386	386	FVTPL	340	10	359	-29 ^h
Derivatives – hedge accounting	1	1	n. a.	1	–	1	–
Other liabilities ^f	3,099	2,205	AC	2,205	–	–	–
Total liabilities	32,423	31,529		30,243	12,543	4,948	-29

^a In general, only significant shareholdings are measured at fair value. All insignificant shareholdings are measured at cost (carrying amount: €539 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 25.1 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.

^g The carrying amount of the electricity forward agreements reported in the balance sheet under other receivables and miscellaneous assets is €8 million after subtracting the differences of €24 million.

^h The carrying amount of the electricity forward agreements reported in the balance sheet under other liabilities is €17 million after subtracting the differences of €46 million.

Financial assets measured at fair value – valuation methods and input factors

Million €

Financial Instrument	Fair Value Level	Description	Valuation method	Key input factors to determine fair value	Dec. 31, 2023	Dec. 31, 2022
Accounts receivable, trade	Level 2	Receivables with embedded commodity derivatives	Discounting of expected future cash flows	Observable commodity price quotations, yield curves, credit default premiums	312	268
	Level 2	Receivables available for sale under a factoring agreement	Valuation using nominal values	Nominal values	286	–
Derivatives with positive fair values	Level 1	Exchange-traded commodity derivatives	Price quotation on an active market for identical assets	Market price on the balance sheet date	5	1
	Level 2	OTC currency, interest rate and commodity derivatives	Discounting of expected future cash flows, option pricing models	Exchange rate quotations, observable yield curves, commodity price quotations, currency and commodity price volatility, credit default premiums	995	1,338
	Level 3	Electricity forward agreements	Discounting of expected future cash flows	Electricity price quotations, long-term electricity price forecasts, ^a expected electricity volumes, ^a estimated startup date, ^a yield curves, credit default premiums	198 ^b	32 ^c
Other receivables and miscellaneous assets	Level 2	Performance-based interest-bearing loan to BASF Pensionskasse	Discounting of expected future cash flows	Expected cash flows from the investment portfolio, discount factors	80	80
	Level 2	Surrender values for insurance policies	Surrender values according to contractual agreement	Surrender values on the balance sheet date	9	9
Securities	Level 1	Publicly traded fund shares	Price quotation on an active market for identical assets	Market price on the balance sheet date	234	204
	Level 1	Publicly traded bonds	Price quotation on an active market for identical assets	Market price on the balance sheet date	251	42
	Level 2	Bonds not publicly traded	Issuer pricing based on recognized valuation methods	Yield curves, credit default premiums	91	78
	Level 2	Fund shares not publicly traded	Consideration of the fair value of the equity and debt instruments in which funds are invested	Market price on the balance sheet date, yield curves, credit default premiums, net asset value of fund investments	1	464
Cash and cash equivalents	Level 1	Publicly traded money market funds	Price quotation on an active market for identical assets	Market price on the balance sheet date	20	447
Derivatives with negative fair values	Level 1	Exchange-traded commodity derivatives	Price quotation on an active market for identical liabilities	Market price on the balance sheet date	10	10
	Level 2	OTC currency, interest rate and commodity derivatives	Discounting of expected future cash flows, option pricing models	Exchange rate quotations, observable yield curves, commodity price quotations, currency and commodity price volatility, credit default premiums	306	360
	Level 3	Electricity forward agreements	Discounting of expected future cash flows	Electricity price quotations, long-term electricity price forecasts, ^a expected electricity volumes, ^a estimated startup date, ^a yield curves, credit default premiums	-48 ^d	-29 ^e

^a Unobservable level 3 input factors

^b The carrying amount of the electricity forward agreements reported in the balance sheet under other receivables and miscellaneous assets is €53 million after subtracting the differences of €145 million described on page 300.

^c The carrying amount of the electricity forward agreements reported in the balance sheet under other receivables and miscellaneous assets is €8 million after subtracting the differences of €24 million described on page 300.

^d The carrying amount of the electricity forward agreements reported in the balance sheet under other liabilities is €10 million after subtracting the differences of €58 million described on page 300.

^e The carrying amount of the contract for difference for electricity prices reported in the balance sheet under other liabilities is €17 million after subtracting the differences of €46 million on page 300.

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 electricity forward agreements presented in the previous table are derivatives embedded in virtual and physical power purchase agreements (PPAs) that are not eligible for own use exemption. A change in the key valuation parameters as of December 31, 2023,

would have affected the fair value of electricity forward agreements as follows:

Sensitivities of electricity forward agreements

Million €

2023						2022					
Change in expected electricity prices		Change in expected production volumes		Date of startup ^a		Change in expected electricity prices		Change in expected production volumes		Date of startup ^a	
+10%	-10%	+10%	-10%	3 months later than expected	3 months earlier than expected	+10%	-10%	+10%	-10%	3 months later than expected	3 months earlier than expected
91	-91	29	-29	0	-1	22	-22	6	-6	-3	3

^a Due to differing forward prices for electricity in the relevant months and the seasonality of solar power generation, linear extrapolation of the values is not possible.

At the time of initial recognition, the fair values of the electricity forward agreements, which were calculated using a valuation model, were higher than the respective transaction prices of zero. Development of the differences is presented in the table below.

Development of differences yet to be amortized of electricity forward agreements

Million €

	2023	2022
Differences yet to be amortized through profit or loss as of January 1	70	12
Additions in the reporting period	147	62
Amounts recognized in profit or loss in the current reporting period	-6	-3
Currency translation	-7	0
Disposals in the reporting period	-	-
Differences yet to be amortized through profit or loss as of December 31	204	70

Development of assets and liabilities measured at level 3 fair value

Million €

	Electricity forward agreements	
	2023	2022
Carrying amounts as of January 1 ^a	61	11
Purchases	147	62
Sales	-	-
Reclassification to or from level 3	-	-
Gains and losses recognized in other operating result	47	-12
of which unrealized gains and losses attributable to assets and liabilities held at the end of the reporting period	47	-12
Currency translation	-8	0
Other	-	-
Carrying amounts as of December 31^a	246	61

^a Carrying amounts before subtracting differences presented in the table "Development of differences yet to be amortized of electricity forward agreements."

The changes in carrying amounts were recognized in the income statement as other operating income or other operating expenses.

No reclassifications arose between fair value levels 1, 2 and 3 for financial assets or liabilities recognized at fair value in the reporting period.

Offsetting of derivative assets and liabilities as of December 31, 2023

Million €

	Offset amounts			Potential netting volume		Potential net amount
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	
Derivatives with positive fair values	482	-22	460	-114	-161	185
Derivatives with negative fair values	195	-22	173	-114	-13	47

Offsetting of derivative assets and liabilities as of December 31, 2022

Million €

	Offset amounts			Potential netting volume		Potential net amount
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	
Derivatives with positive fair values	727	-18	708	-141	-288	279
Derivatives with negative fair values	275	-18	257	-141	-21	94

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 2023 and 2022 arose from derivatives not subject to any netting agreements. These are not included in the table above.

In addition to the offsetting of derivatives presented in the table above, trade accounts receivable in 2023 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 €1.029 million. The reduction in trade accounts payable was €72 million and the reduction in advance payments received on orders was €957 million. Accordingly, the net amount for trade accounts receivable was €10,414 million (gross amount before offsetting: €11,443 million). The resulting net amount for trade accounts payable was €6,741 million (gross amount before offsetting: €6,813 million). The net amount for advance payments received on orders was €779 million (gross amount before offsetting:

€1,736 million). In 2022, trade accounts receivable were also offset against trade accounts payable and the advance payments received on orders included in current other liabilities. This reduced trade accounts receivable by €992 million. The reduction in trade accounts payable was €103 million and the reduction in advance payments received on orders was €889 million. Accordingly, the net amount for trade accounts receivable was €12,055 million (gross amount before offsetting: €13,047 million). The resulting net amount for trade accounts payable was €8,434 million (gross amount before offsetting: €8,537 million). The net amount for advance payments received on orders was €926 million (gross amount before offsetting: €1,815 million).

The net gains and losses from financial instruments shown in the following table comprise the results of valuations, the amortization of discounts, the recognition and reversal of impairments, results from the translation of foreign currencies as well as interest, dividends and all other effects on the earnings resulting from

financial instruments. The line item financial instruments at fair value through profit or loss contains only gains and losses from instruments that are not designated as hedging instruments in a hedging relationship in accordance with IFRS 9.

 Gains and losses from the valuation of securities recognized in equity are shown in development of income and expense recognized in equity attributable to shareholders of BASF SE on page 228.

For more information, see the Statement of Changes in Equity on page 232

Net gains and losses from financial instruments

Million €

	2023	2022
Financial assets measured at amortized cost	-648	85
of which interest result	127	53
Financial instruments measured at fair value through profit or loss	111	289
of which interest result	46	59
Financial assets measured at fair value through other comprehensive income	9	3
of which interest result	9	3
Financial liabilities measured at amortized cost	181	-701
of which interest result	-624	-461

25.5 Derivative financial instruments and hedging relationships

The use of derivative financial instruments

BASF is exposed to foreign currency, interest rate and commodity price risks during the normal course of business. These risks are hedged using derivative instruments as necessary in accordance with a centrally determined strategy. Hedging is employed for

existing underlying transactions from the product business, cash investments and financing as well as for planned sales, raw materials purchases and capital measures. Furthermore, hedging may also be used for cash flows from acquisitions and divestitures. The risks from the hedged items and the derivatives are continually monitored. Where derivatives have a positive market value, BASF is exposed to credit risks from derivative transactions in the event of nonperformance of the other party. To minimize the default risk on derivatives with positive market values, transactions are exclusively conducted with creditworthy banks and partners and are subject to predefined credit limits.

To ensure efficient risk management, risk positions are centralized at BASF SE and certain Group companies. The contracting and execution of derivative financial instruments for hedging purposes are conducted according to internal guidelines, and subject to strict control mechanisms.

Fair value of derivative instruments

Million €

	December 31, 2023	December 31, 2022
Foreign currency forward contracts	38	165
Foreign currency options	5	19
Foreign currency derivatives	43	184
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	7	16
Combined interest rate and currency swaps	157	265
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	228	256
Interest derivatives	157	265
Commodity derivatives	525	511
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	-10	45
Derivative financial instruments	725	960

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 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 2023 and 2022. The average exercise price of the designated options was \$684.51 per metric ton as of December 31, 2023 (December 31, 2022: \$737.71 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 as well as swaps 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 €72.00 per MWh or \$4.02 per mmBtu as of December 31, 2023. The average hedged exercise price of the designated swaps was €48.31 per MWh as of December 31, 2023. The average exercise price of the designated options was €71.36 per MWh or \$5.00 per mmBtu as of December 31, 2022. Cash flows from not yet realized hedging and underlying transactions are generally recognized in profit or loss in 2024 and 2025.

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 2023, a decrease in fair value of €63 million was recognized in

equity, and €64 million was initially derecognized against the carrying amount of the inventories procured and then recognized upon consumption in profit or loss. In 2022, a decrease in fair value of €60 million was recognized as a reduction in equity, and €49 million was derecognized against the carrying amount of the acquired assets.

Due to planned sales in U.S. dollars, BASF is exposed to foreign currency risks, which are partially hedged with currency options and designated in a cash flow hedge accounting relationship. The hedged transaction – the designated share of expected sales in U.S. dollars – is calculated based on internal thresholds. The hedged volume is always below the total amount of expected sales in U.S. dollars for the following fiscal year. The average hedged rate was \$1.0863 per euro as of December 31, 2023, and \$1.0255 per euro in the previous year. The impact on earnings from designated transactions in 2023 will be recognized in the following year. The decrease in the options' time value component arising in the amount of €9 million in 2023 was recognized separately in equity as the cost of hedging and resulted in a reduction in equity. Due to the maturity of hedged items, accumulated changes in the options' time values were reclassified as a reduction in earnings in the amount of €12 million. In the previous year, €8 million was recognized as a change in the options' time value component, thereby reducing equity; and €9 million was reclassified as a reduction in earnings.

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 rate and currency risk. BASF is also exposed to a combined interest rate and currency risk associated with the issue of several tranches of a fixed-interest U.S. private placement it committed to for 2024. The resulting currency risks were hedged with currency swaps in 2023. These hedges were designated as

cash flow hedges. No ineffectiveness was recognized in 2023 or 2022. The hedged interest rate was 3.66% in 2023 (2022: 3.12%). The hedged foreign exchange rate was \$1.2052 per euro in 2023 (2022: \$1.3589 per euro). For U.S. private placements hedged in 2023, changes in value in the forward component totaling €14 million were recognized separately in equity as hedging costs in 2023, leading to an increase in equity.

Furthermore, BASF was exposed to foreign currency risks in 2023 through U.S. dollar-denominated commercial paper. These risks were hedged with foreign currency forward contracts and designated in a cash flow hedge accounting relationship. The changes in value in the amount of €30 million resulting from the change in the forward rate were recognized separately in equity as hedging costs, leading to an increase in equity (2022: €30 million). Because all underlying transactions and hedging instruments had expired by December 31, 2023, the amount of €30 million, which was initially recognized in equity, was reclassified in full as an increase in earnings (2022: €30 million). There was no ineffectiveness at any time during the year.

In connection with construction of the new Verbund site in Zhanjiang, China, BASF is exposed to foreign currency risks especially from expenditures in euros that were hedged with foreign currency forward contracts and designated in cash flow hedge accounting relationships. The hedged exchange rate was ¥7.5738 per euro in 2023. The expenditures in euros hedged with foreign currency forward contracts are firm commitments. In 2023, €3 million was derecognized from the cash flow hedge reserve and included in acquisition or production costs of property, plant and equipment. Hedging results are recognized in profit or loss upon depreciation of property, plant and equipment.

Furthermore, BASF was exposed to a combined interest rate and currency risk in 2023 from a fixed-interest loan in Polish zloty, which was converted to euros through currency swaps. This hedge was designated as a cash flow hedge. The hedged exchange rate was zł4.7065 per euro and the hedged interest rate was 3.20%. In 2023, the changes in value in the amount of €7 million resulting from the forward component's changed market rate were recognized separately in equity as hedging costs, leading to an increase in equity. There was no ineffectiveness at any time during the year.

The effects of the hedging relationships on the balance sheet, the cash flow hedge reserve, hedged nominal value and ineffectiveness to be determined are presented in the following tables by fiscal year.

Cash flow hedge accounting effects in 2023

Million €

	Carrying amount of hedging instruments			Cash flow hedge reserve				Change in fair values for assessing ineffectiveness		Recognized ineffectiveness		
	Financial assets	Financial liabilities	Balance sheet item	Nominal value	Accumulated amounts for continuing hedging relationships	Hedging effects recognized in other comprehensive income	Amounts reclassified to profit or loss for realized hedging transactions	Income statement item for recognition of reclassification	Hedging instrument	Hedged transaction	Ineffectiveness amount	Income statement item
Foreign currency risks	10	-2	Other receivables and miscellaneous assets / other liabilities	611	6	16	-17 ^a	Other operating income	6	6	-	n. a.
Interest risks	-	-	n/a	-	-	-	-	Other operating income	-	-	-	n. a.
Combined interest / foreign currency risks	228	-	Other receivables and miscellaneous assets	2,525	-23	-48	23	Other financial income	207	239	-	n. a.
Commodity price risks	5	-15	Other receivables and miscellaneous assets	376	-17	-24	- ^b	Other operating income	-17	-17	-	n. a.
Total	242	-18		3,512	-34	-56	6		196	228	-	

^a €3 million was derecognized from the cash flow hedge reserve, reducing the cost of inventories, and recognized in profit or loss upon consumption.

^b €3 million was derecognized from the cash flow hedge reserve, increasing the cost of inventories, and recognized in profit or loss upon consumption.

Cash flow hedge accounting effects in 2022

Million €

	Carrying amount of hedging instruments			Cash flow hedge reserve				Change in fair values for assessing ineffectiveness		Recognized ineffectiveness		
	Financial assets	Financial liabilities	Balance sheet item	Nominal value	Accumulated amounts for continuing hedging relationships	Hedging effects recognized in other comprehensive income	Amounts reclassified to profit or loss for realized hedging transactions	Income statement item for recognition of reclassification	Hedging instrument	Hedged transaction	Ineffectiveness amount	Income statement item
Foreign currency risks	17	1	Other receivables and miscellaneous assets / other liabilities	1,215	11	304	-294	Other operating income	10	10	-	n. a.
Interest risks	-	-	n/a	-	-	-15	15	Other operating income	-	-	-	n. a.
Combined interest / foreign currency risks	256	-	Other receivables and miscellaneous assets	920	2	76	-68	Other financial income	256	259	-	n. a.
Commodity price risks	45	-	Other receivables and miscellaneous assets / assets of disposal groups / other liabilities	296	4	181	-111 ^a	n/a	4	4	-	n. a.
Total	318	1		2,431	17	546	-458		270	273	-	

^a €166 million was derecognized from the cash flow hedge reserve, reducing the cost of inventories, and recognized in profit or loss upon consumption

The occurrence of all forecasted transactions was considered to be highly probable at all times during fiscal years 2023 and 2022. 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.

26 Capital structure management and statement of cash flows

26.1 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 €36,646 million as of December 31, 2023 (December 31, 2022: €40,923 million); the equity ratio was 47.3% on December 31, 2023 (December 31, 2022: 48.4%).

BASF prefers to access external financing on the capital markets and, when advantageous, via bank loans. A commercial paper program is used for short-term financing, while corporate bonds are used for financing in the medium and long term. These are issued in euros and other currencies with different maturities. The goal is to create a balanced maturity profile, achieve a diverse range of investors and optimize BASF's debt capital financing conditions. Since 2020, BASF has employed green corporate bonds to finance the development of sustainable products and projects with a clear environmental benefit.

BASF currently has the following ratings, which were most recently confirmed by Fitch on November 8, 2023, and by Moody's on September 4, 2023. Standard & Poor's adjusted BASF's A rating to A- and its outlook from negative to stable on August 2, 2023.

Ratings as of December 31, 2023

	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Fitch	A	F1	stable
Moody's	A3	P-2	stable
Standard & Poor's	A-	A-2	stable

Ratings as of December 31, 2022

	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Fitch	A	F1	stable
Moody's	A3	P-2	stable
Standard & Poor's	A	A-1	negative

BASF continues to strive for a solid A rating, which ensures unrestricted access to financial and capital markets.

²⁵ For more information on BASF's financing policy, see the Combined Management's Report from page 69 onward

26.2 Statement of cash flows

Accounting policies

Cash flows from operating activities are determined using the indirect method whereby changes in balance sheet items are adjusted for currency translation effects and changes in the scope of consolidation and thus cannot be derived directly from the consolidated balance sheet.

BASF reports interest paid and dividends received in cash flows from operating activities. Income tax payments from ongoing business are also allocated to cash flows from operating activities. In the case of material transactions, however, these are reported in the corresponding section of the statement of cash flows.

Cash flows from financing activities include payments for leases in which BASF is lessee as well as dividend payments.

Other financing-related liabilities primarily comprise liabilities from accounts used for cash pooling with BASF companies not included in the Consolidated Financial Statements. They are reported in miscellaneous liabilities within the balance sheet item other liabilities that qualify as financial instruments.

Assets/liabilities from hedging transactions included in cash flows from financing activities 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.

²⁶ For more information on receivables and miscellaneous assets, see Note 17 from page 275 onward
For more information on liabilities, see Note 20 from page 280 onward
For more information on the statement of cash flows, see the Combined Management's Report from page 70 onward

Payments are netted in cash flows from investing activities and cash flows from financing activities if they are items with a high turnover rate, represent large amounts and have short-term maturities.

Explanation of the statement of cash flows

To improve the understanding and interpretation of the statement of cash flows, the presentation of cash flows from operating activities was modified in the 2023 fiscal year. In the future, effects from equity-accounted companies will be presented more transparently; changes in net working capital, consisting of inventories, trade accounts receivable and payable, as well as changes in other operating assets and liabilities will be structured more clearly. The prior-year figures were adjusted accordingly.

Cash flows from operating activities contained the following payments:

Statement of cash flows

Million €	2023	2022
Income taxes	-760	-1,514
of which income tax refunds	282	358
income tax payments	-1,042	-1,872
Interest payments	-413	-353
of which interest received	235	191
interest paid	-648	-544
Dividends received	668	1,657

In order to optimize precious metal stocks, the Group sells precious metals and concurrently enters into agreements to repurchase them at a set price. Cash flows resulting from the sale and repurchase in the amount of -€447 million (2022: €502 million) were reported in cash flows from operating activities.

Factoring agreements in the amount of €560 million had a positive impact on cash flows from operating activities in 2023 (2022: €266 million).

In 2023, cash flows from investing activities included €5 million in payments made for acquisitions. As in the previous year, these related to an adjusted purchase price payment for Solvay's polyamide business (2022: €13 million).

Payments received from divestitures amounted to €32 million and related solely to immaterial transactions. In the previous year, payments received resulted from the sale of shares in the Hollandse Kust Zuid wind farm in the amount of €382 million, the sale of the kaolin minerals business in the amount of €225 million, and the sale of the production site in Quincy, Florida, and associated attapulgitic business in the amount of €60 million.

For more information on acquisitions and divestitures, see Note 3 from page 240 onward

Payments made for property, plant and equipment and intangible assets amounted to €5,395 million, €1,020 million higher than in the previous year. This also includes capitalized interest in the amount of €80 million (2022: €40 million).

Cash and cash equivalents in the amount of €2,624 million consist primarily of cash on hand and bank balances with maturities of less than three months. As in the previous year, these were not subject to any utilization restrictions in 2023. However, the repayment of funds from Russia is currently only possible to a limited extent. These amounted to €21 million as of December 31, 2023 (2022: €99 million).

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 on the left correspond to the figures in cash flows from financing activities.

Reconciliation according to IAS 7 for 2023

Million €

	Dec. 31, 2022		Non-cash-effective changes					Dec. 31, 2023
		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	19,016	470	–	-235	–	17	–	19,268
Loan liabilities	322	-45	–	-2	–	-16	–	259
Lease liabilities	1,489	-401 ^a	-1	-26	609	-20 ^b	–	1,649
Other financing-related liabilities	250	-52	-3	–	–	-10	–	185
Financial and similar liabilities	21,077	-28	-5	-263	609	-28	–	21,362
Assets/liabilities from hedging transactions	-155	245	–	–	–	–	-138	-47
Total	20,922	217	-5	-263	609	-28	-138	21,314

^a Lease payments totaled €455 million in 2023. The principal component in the amount of €401 million is presented in cash flows from financing activities. BASF reports interest payments in cash flows from operating activities; these items amounted to €54 million.

^b Includes mainly disposals from lease contracts.

Reconciliation according to IAS 7 for 2022

Million €

	Dec. 31, 2021 ^a	Non-cash-effective changes						Dec. 31, 2022
		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	17,184	1,473	–	332	–	27	–	19,016
Loan liabilities	441	-114	–	-1	–	-4	–	322
Lease liabilities	1,414	-453 ^b	-4	35	583	-86 ^c	–	1,489
Other financing-related liabilities	342	-52	-70	2	–	28	–	250
Financial and similar liabilities	19,381	854	-74	368	583	-35	–	21,077
Assets/liabilities from hedging transactions	5	-288	–	–	–	–	128	-155
Total	19,386	566	-74	368	583	-35	128	20,922

^a Balances as of December 31, 2021, also include amounts reclassified to the disposal groups and therefore deviate from balance sheet values.

^b Lease payments totaled €495 million in 2022. The principal component in the amount of €453 million is presented in cash flows from financing activities. BASF reports interest payments in cash flows from operating activities; these items amounted to €42 million.

^c Includes mainly disposals from lease contracts.

27 Personnel expenses and employees

Personnel expenses

Expenses for wages and salaries, social security contributions and assistance, as well as for pensions totaled €10,950 million in 2023. In the previous year, these amounted to €11,400 million. The decline was mainly due to the lower additions of bonus provisions, currency effects, particularly from the U.S. dollar and the Argentine peso, as well as lower pension expenses. A higher wage and salary level as well as a higher average number of employees had an offsetting effect.

Personnel expenses

Million €

	2023	2022
Wages and salaries	8,773	9,102
Social security contributions and assistance expenses	1,612	1,598
Pension expenses	565	701
Personnel expenses	10,950	11,400

Number of employees

As of December 31, 2023, the number of employees increased to 111,991 employees compared with 111,481 employees as of December 31, 2022. The rise was primarily due to staff increases in Asia Pacific, especially for the new Verbund site in Zhanjiang, China. This was partially offset by retirements and departures due to dormant employment as well as measures in connection with the cost savings program focusing on Europe.

Employees of joint operations are included in the number of employees relative to BASF's share in the company. As of December 31, 2023, a total of 1,210 employees worked at joint operations (December 31, 2022: 1,196 employees).

The development of the number of employees in the BASF Group was distributed over the regions as follows:

Number of employees as of December 31

	2023	2022
Europe	67,562	67,958
of which Germany	51,406	51,703
North America	16,060	16,036
Asia Pacific	21,193	20,452
South America, Africa, Middle East	7,176	7,035
BASF Group	111,991	111,481
of which apprentices and trainees	3,045	3,049
temporary staff	2,305	2,468

The average number of employees was distributed over the regions as follows:

Average number of employees		
	2023	2022
Europe	67,617	67,621
of which Germany	51,369	51,174
North America	16,077	16,452
Asia Pacific	20,822	20,036
South America, Africa, Middle East	7,075	6,914
BASF Group	111,590	111,023
of which apprentices and trainees	2,715	2,711
temporary staff	2,452	2,642

The average number of employees increased to 111,590 employees in 2023 (2022: 111,023 employees).

The reasons for the development of the number of employees as described above are also decisive to the rise in average number of employees. Moreover, the divestiture of the kaolin minerals business as of September 30, 2022, and the suspension of business activities in Russia in the previous year had an offsetting impact.

For more information on acquisitions and divestitures, see Note 3 from page 240 onward

On average, 1,202 employees worked at joint operations (2022: 1,188 employees).

28 Share price-based compensation programs and BASF incentive share program

Share price-based compensation programs

The BASF Group's share price-based compensation programs, or long-term incentive (LTI) programs, are cash-settled programs. If vested, the cash-settlement obligation is measured at fair value on every balance sheet date and recognized as a provision.

In 2023, the BASF Group continued offering its share price-based compensation program (LTI program), known as Strive!, which was launched in 2020. The share price-based compensation program known as "BOP" (BASF Option Program), which had existed since 1999, was offered for the last time in 2020. All option rights granted during the BOP program years remain valid until the end of their respective exercise periods.

Generally, members of the Board of Executive Directors and all senior executives are entitled to participate in the LTI programs.

Strive!

Strive! is based on a performance share plan and takes into account the achievement of strategic goals and the development of the BASF share and dividend (total shareholder return) over a period of four years.

Participation in Strive! is voluntary for senior executives and is linked to a share ownership obligation. Strive! offers rolling eligibility, without a deadline for participation. In 2023, 684 people were eligible to participate in Strive!. About 93% of eligible senior executives and Members of the Board of Executive Directors participated. Unlike for senior executives, participation is not voluntary for the members of the Board of Executive Directors and is outlined in their service contracts. The same plan conditions generally apply to members of the Board of Executive Directors.

A Strive! plan includes a four-year performance period with a fixed disbursement date. A target amount is determined at the beginning of each new Strive! plan for every participant. This target amount is converted into a preliminary number of virtual performance share units (PSUs) by dividing it by the average BASF share price in the fourth quarter of the previous year. The number of PSUs that are ultimately paid out at the end of the performance periods 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 the respective Strive! plan is determined by adding the target achievement degree for the three strategic targets after having multiplied each by the corresponding weighting factor. To calculate the final number of PSUs, this weighted target achievement is multiplied by the preliminary number of PSUs. The payment amount upon conclusion of the four-year performance period is calculated by multiplying the final number of PSUs by the average BASF share price for the fourth quarter of the last year of the performance period, plus the accumulated dividend payments in the four fiscal years. The payment occurs in May of the following year and is capped at 200% of the target amount. The payment amount therefore not only reflects achievement of the strategic targets, but performance of BASF's dividend and share price as well.

A personal investment in BASF shares is the prerequisite for participation in Strive!. Participants are required to own BASF shares amounting to a predetermined percentage of their base salary for the duration of the performance period. A set-up phase applies to first-time participants. During this period, they are

required to hold a percentage of shares as their predetermined personal investment. The set-up phase for the 2023 Strive! program ends on December 31, 2026. The 2023 Strive! program has the same fundamental structure as the Strive! programs in previous years.

Fair value of PSUs and parameters used as of December 31, 2023

	Strive! program of the year			
	2023	2022	2021	2020
Number of PSUs granted	1,106,496	763,140	746,244	625,033
Number of PSUs vested	276,624	381,570	559,683	625,033
Fair value including fluctuation / PSU	€ 43.25	40.50	69.57	68.69
Fair value excluding fluctuation / PSU	€ 48.88	43.94	72.47	68.69
Weighted target achievement	% 100.00	79.91	126.42	119.80
Base price	€ 46.45	61.82	57.15	67.85

PSUs vested by the deadline were measured at fair value. Fair value is determined based on the BASF share price of €48.78 on the balance sheet date plus expected dividend payments during the term of the program and taking into account the weighted target achievement rate of the respective Strive! plan. A fluctuation rate of 4% is assumed for the fair value of senior executives' PSUs.

The LTI provision for Strive! rose from €71 million as of December 31, 2022, to €118 million as of December 31, 2023, due to the increased number of vested PSUs. The expense from the addition of provisions totaled €47 million in 2023 and €23 million in 2022. On the basis of preliminary degrees of target achievement, a payment amount of €43 million was recognized in current provisions for the fully vested 2020 program year.

BASF Option Program (BOP)

The "BOP" LTI program last offered in 2020, grants virtual option rights. When exercised, the option rights are settled in cash.

Participation in BOP was voluntary. In order to take part in the program, a participant had to make a personal investment:

Participants were required to hold BASF shares representing between 10% and 30% of their respective variable compensation for a two-year period from the granting of the option (holding period). The number of shares to be held was determined by the amount of variable compensation and the volume-weighted average share price on the first trading day after the Annual Shareholders' Meeting.

Participants received four option rights per invested share. Each option consists of two parts, right A and right B, which may be exercised if defined thresholds have been met: The threshold of right A is met if the price of the BASF share has increased by more than 30% in comparison with the base price on the option grant date (absolute threshold). The value of right A is the difference between the market price of BASF shares on the exercise date and the base price; it is limited to 100% of the base price. Right B may be exercised (relative threshold) if the cumulative percentage performance of BASF shares exceeds the percentage performance of the MSCI World Chemicals IndexSM (MSCI Chemicals). The value of right B is the base price of the option multiplied by twice the percentage by which the BASF share outperforms the MSCI Chemicals Index on the exercise date. It is

limited to the closing price on the date of exercise less the calculated nominal value of the BASF share. Right B may only be exercised if the price of the BASF share equals at least the base price. When a two-year vesting period is over, options granted can be exercised until the end of the respective exercise period. When a two-year vesting period is over, options granted can be exercised until the end of the respective exercise period. During the exercise period, there are certain times (closed periods) during which the options may not be exercised. Each option can only be exercised in full, and one of the thresholds must be exceeded. If the other threshold is not exceeded, the other option right lapses. A participant's maximum gain from exercising an option is limited to five times the original individual investment. Option rights are nontransferable and are forfeited if the option holders no longer work for the BASF Group or have sold part of their individual investment before the expiry of the two-year vesting period. They remain valid in the case of retirement. For the members of the Board of Executive Directors, the long-term orientation of the program has been strengthened significantly compared with the conditions applying to the other participants. Members of the Board of Executive Directors were required to participate in the BOP program with at least 10% of their actual annual variable

compensation. In view of this binding personal investment (in the form of BASF shares), an extended holding period of four years applies. Members of the Board of Executive Directors may only exercise their option rights four years after they have been granted at the earliest (vesting period).

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 2016 to 2020 programs were valued at fair value as of December 31, 2023. A proportionate provision was recognized for programs in the vesting period.

The number of outstanding options declined from 9,328,238 in 2022 to 7,731,844 in 2023, due mainly to the expiration of options from the 2015 BOP program.

The exercisable options had no intrinsic value as of December 31, 2023, or December 31, 2022.

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. Volatility is determined on the basis of the monthly closing prices over a historical period corresponding to the remaining term of the options.

The LTI provision for BOP decreased from €64 million as of December 31, 2022, to €50 million as of December 31, 2023, due to lower fair values and a lower number of outstanding option rights. In 2022, the amount of €1 million was utilized due to senior executives leaving the company, whereas in 2023, less than €1 million was utilized due to senior executives leaving the company. Income from the reduction in provisions totaled €13 million in 2023 and €46 million in 2022.

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	2023	2022
As of January 1	2,497,355	3,079,123
Newly acquired entitlements	1,239,700	1,239,700
Bonus shares issued	-665,428	-478,925
Lapsed entitlements	849,211	-1,342,543
As of December 31	3,920,838	2,497,355

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 €45.88 for the 2023 program, and €47.74 for the 2022 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 €26 million in 2023 and €20 million in 2022.

29 Compensation of the Board of Executive Directors and Supervisory Board

Compensation of the Board of Executive Directors and Supervisory Board

Million €

	2023	2022
Non-performance-related and performance-related cash compensation of the Board of Executive Directors ^a	28.7	18.5
Fair value of performance share units allocated to the Board of Executive Directors in the fiscal year as of allocation date	8.6	10.0
Total compensation of the Board of Executive Directors	37.3	28.5
Service costs for members of the Board of Executive Directors	3.3	3.7
Compensation of the Supervisory Board	3.3	3.3
Total compensation of former members of the Board of Executive Directors and their surviving dependents	15.3	9.1
Pension provisions for former members of the Board of Executive Directors and their surviving dependents	172.8	160.4
Guarantees assumed for members of the Board of Executive Directors and the Supervisory Board	–	–

^a In 2023, this included, among other items, a severance payment of €7.5 million and a securities-based pension award payment of €2.2 million to members of the Board of Executive Directors who left in 2023.

The STI performance bonus is based on the performance of the Board of Executive Directors as a whole and the return on capital employed (ROCE) of the BASF Group. Subject to certain conditions, ROCE is adjusted for special items from acquisitions and divestitures. The conditions for a ROCE adjustment were not met in 2023.

Market valuation of the option rights of active and former members of the Board of Executive Directors led to expenses totaling €0.7 million in 2023, following income in the amount of €2.3 million in the previous year.

In 2023, members of the Board of Executive Directors were allocated 214,253 performance share units (PSUs) under the LTI performance share program (2022: 166,001 PSUs). Market valuation of the PSUs of members of the Board of Executive Directors resulted in an expense totaling €11.7 million in 2023 (2022: €6.7 million).

The Compensation Report is available at [basf.com/compensationreport](https://www.basf.com/compensationreport)

30 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.

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 decrease in other receivables from nonconsolidated subsidiaries as well as the increase from associated companies resulted primarily from other finance-related receivables.

The decline in other liabilities to nonconsolidated subsidiaries as well as associated companies resulted from other finance-related liabilities 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 €99 million as of December 31, 2022, to €136 million as of December 31, 2023. The addition to valuation allowances with respect to nonconsolidated subsidiaries was recognized as an expense in the amount of €42 million.

The balance of valuation allowances on trade accounts receivable from nonconsolidated subsidiaries remained equal to the previous year at €3 million as of December 31, 2023; from joint ventures, it declined from €3 million as of December 31, 2022, to €2 million as of December 31, 2023.

BASF had obligations from guarantees and other financial obligations in favor of nonconsolidated subsidiaries in the amount of €15 million as of December 31, 2023, and €8 million as of December 31, 2022, in favor of joint ventures in the amount of €19 million as of December 31, 2023, and €39 million as of December 31, 2022, and in favor of associated companies in the amount of €1 million as of December 31, 2023, and likewise €1 million as of December 31, 2022.

Obligations arising from purchase contracts with joint ventures amounted to €3,071 million as of December 31, 2023, and €5 million as of December 31, 2022. The increase was primarily due to power purchase agreements.

Annual minimum rental payments for an office building including a parking area payable by BASF SE to BASF Pensionskasse VVaG for the nonterminable basic rental period until 2029 amounted to €7 million.

BASF SE had other finance-related receivables from BASF Pensionskasse VVaG in the amount of €80 million as of December 31, 2023, and as of December 31, 2022.

Sales to related parties

Million €

	Services rendered		Services received	
	2023	2022	2023	2022
Nonconsolidated subsidiaries	1,116	1,276	357	370
Joint ventures	824	1,381	1,241	1,643
Associated companies	193	222	1,137	2,778

Trade accounts receivable from / trade accounts payable to related parties

Million €

	Accounts receivable, trade		Accounts payable, trade	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Nonconsolidated subsidiaries	358	400	142	159
Joint ventures	136	305	113	178
Associated companies	29	47	67	229

Other receivables from / liabilities to related parties

Million €

	Other receivables		Other liabilities	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Nonconsolidated subsidiaries	207	242	162	189
Joint ventures	24	27	23	27
Associated companies	15	7	13	21

There were no reportable related party transactions with members of the Board of Executive Directors or the Supervisory Board and their related parties in 2023.

For more information on subsidiaries, joint ventures and associated companies, see the 2023 BASF Group list of shares held on page 241

For more information on defined benefit plans, the division of risk between Group companies, see Provisions for pensions and similar obligations from page 282 onward

The Compensation Report is available at basf.com/compensationreport

31 Services provided by the external auditor

BASF Group companies used the following services from KPMG:

Services provided by the external auditor

Million €	2023	2022
Annual audit	25.7	22.9
of which domestic	8.9	8.1
Audit-related services	1.6	0.7
of which domestic	1.3	0.5
Tax consultation services	0.2	0.2
of which domestic	–	–
Other services	0.1	0.0
of which domestic	0.0	0.0
Total	27.5	23.8

The services provided by the external auditor mainly include services for the annual audit and, to a lesser extent, audit-related services (including project-related audits of IT migrations) and tax consultation services. The services attributable to domestic were rendered by KPMG AG Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, Germany.

The line item annual audit relates to expenses for the audit of the Consolidated Financial Statements of the BASF Group, the legally required financial statements of BASF SE and of the subsidiaries and joint operations included in the Consolidated Financial Statements as well as the review of subgroups. Fees for audit-related services primarily include audits in connection with regulatory obligations as well as other confirmation services.

32 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 2023 and is published online.

For more information, see basf.com/en/corporategovernance

33 Non-adjusting events after the balance sheet date

Since the beginning of the 2024 business year, no events have occurred that have a material impact on BASF's net assets, financial position and results of operations.