Policies and scope of consolidation

1 Summary of accounting policies

1.1 General information

BASF SE (registered at the district trade register, or *Amtsgericht*, for Ludwigshafen am Rhein, number HRB 6000) is a publicly listed corporation headquartered in Ludwigshafen am Rhein, Germany. Its official address is Carl-Bosch-Str. 38, 67056 Ludwigshafen am Rhein, Germany.

The Consolidated Financial Statements of BASF SE as of December 31, 2017 have been prepared in accordance with the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB) and section 315a (1) of the German Commercial Code (HGB). IFRSs are generally only applied after they have been endorsed by the European Union. For the 2017 fiscal year, all of the binding IFRSs and pronouncements of the International Financial Reporting Interpretations Committee (IFRIC) were applied.

The Consolidated Financial Statements are presented in euros. All amounts, including the figures for previous years, are given in million euros unless otherwise indicated.

The individual financial statements of the consolidated companies are prepared as of the balance sheet date of the Consolidated Financial Statements. The accounting policies applied are largely the same as those used in 2016, with the exception of any changes arising from the application of new or revised standards.

In its meeting on February 19, 2018, the Board of Executive Directors prepared the Consolidated Financial Statements, submitted them to the Supervisory Board for review and approval, and released them for publication.

1.2 Changes in accounting principles

Accounting policies applied for the first time in 2017

Amendments to IAS 7 – Disclosure Initiative

The amendments aim to improve the information provided about changes to an entity's liabilities arising from financing activities. They specify that an entity must disclose changes to financial liabilities and related financial assets for which payments received and payments made are shown under cash provided by/used in financing activities in the statement of cash flows.

For reconciliation reporting, see Note 29 from page 229 onward

Amendments to IAS 12 – Recognition of deferred tax assets for unrealized losses

The amendments to IAS 12 mainly aim to clarify how to account for deferred tax assets for unrealized losses related to assets measured at fair value. The application of the amendments has no material effect on BASF.

Annual Improvements to IFRSs (2014–2016): Three IFRSs were amended in the Annual Improvements to IFRSs (2014–2016), of which only the following had to be applied in 2017: In IFRS 12, it was clarified that disclosures pursuant to IFRS 12 generally also apply to an entity's interests in subsidiaries, joint ventures and associated companies that are classified as held for sale in accordance with IFRS 5, with the exception of the disclosures outlined in IFRS 12.B10–B16 (Financial Information). The clarification is not expected to have any material effect on BASF.

IFRSs and IFRICs not yet to be considered

The effects on the BASF Group financial statements of the IFRSs and IFRICs not yet in force or not yet endorsed by the European Union in 2017 were reviewed and are explained below.

IFRS 9 – Financial Instruments

The IASB published the final version of IFRS 9 – Financial Instruments on July 24, 2014. IFRS 9 contains new requirements for the classification and measurement of financial instruments, fundamental changes regarding the accounting treatment of impairments of certain assets, and a revised approach to hedge accounting. The European Union endorsed the standard on November 29, 2016. First-time adoption of IFRS 9 is effective in the first business year beginning on or after January 1, 2018. Consequently, BASF will apply IFRS 9 for the first time as of January 1, 2018.

IFRS 9 retains "amortized cost" and "fair value" as measurement paradigms for financial instruments, and continues to differentiate between changes in fair value recognized through profit or loss or other comprehensive income. Whether financial assets are measured at amortized cost or fair value will depend on the business model for managing financial asset portfolios, and on the cash flow condition (the solely payments of principle and interest criterion), that is, the contractual cash flow characteristics of an individual financial asset.

In the future, impairments are to be recognized for financial assets not measured at fair value through profit or loss considering expected credit losses based on the change in the default risk of the counterparties. The impairment approach generally adopts a three-stage model to calculate impairment losses. A simplified approach, which applies to certain financial instruments such as trade accounts receivable, uses a two-stage model to assess impairment losses.

IFRS 9 also contains new requirements for the application of hedge accounting to better present an entity's risk management activities, in particular with respect to the management of nonfinancial risks.

The new requirements for classification and measurement can also have an impact on the accounting treatment of other shareholdings, which must be measured only at fair value in accordance with IFRS 9.B5.2.3 in the future.

With the introduction of the cash flow condition in IFRS 9, which must be considered in the classification of financial assets, it could happen that financial assets measured at amortized cost or at fair value through other comprehensive income according to IAS 39 are to be recognized at fair value through profit or loss in the future. At BASF, this will mainly impact securities that are currently classified as available-for-sale financial assets and thus measured at fair value through other comprehensive income.

In the future, expected losses on trade accounts receivable at BASF will largely be calculated on the basis of internal or external customer ratings and the associated probability of default.

Furthermore, the new impairment model is also to be used for further financial instruments, which are not recognized at fair value through profit or loss, such as bank deposits, loan receivables and miscellaneous receivables. Internal and external ratings for the respective counterparties will also be used as a basis for calculating impairments. Since individual valuation allowances were not calculated for the above assets under IAS 39, the first-time adoption of IFRS 9 will lead to additional impairments.

With regard to new hedge accounting regulations, BASF assumes that, in principle, all existing hedge accounting relationships can be continued under IFRS 9.

In the future, BASF will measure material other shareholdings at fair value in accordance with IFRS 9. This is not expected to lead to a material implementation effect.

The first-time adoption of IFRS 9 will take place using the modified retrospective method. BASF expects that this will result in a reduction of equity between €30 million and €40 million, which will be immediately recognized in equity on January 1, 2018. This is primarily due to the recognition of impairments to trade accounts receivable. The expected impact constitutes an estimate, which can deviate from the actual impact.

IFRS 15 – Revenues from Contracts with Customers

The IASB published the new standard on revenue recognition, IFRS 15, on May 28, 2014. The endorsement by the European Union was issued in the third quarter of 2016. The standard particularly aims to standardize existing regulations and thus improve transparency and comparability of financial information. According to IFRS 15, sales revenue is recognized when control of the agreed-upon goods or services and the benefits obtainable from them are transferred to the customer. Sales revenue is measured at the amount the entity expects to receive in exchange for goods and services. The rules and definitions of IFRS 15 supersede the content of IAS 11, IAS 18, and IFRIC 13. The new standard will be effective for reporting periods beginning on or after January 1, 2018. The potential impact of the new standard, including the subseqent clarifications adopted, on BASF's net assets, financial position and results of operations, was assessed. For this purpose, a Group-wide analysis was conducted.

Its analysis revealed that the balance sheet presentation of sales revenue from licenses, which is realized over a period of time, will change under IFRS 15. This is currently accounted for as deferred income. Under IFRS 15, this will be presented in a new balance sheet item, contract liabilities. A reclassification of approximately €100 million is expected as of January 1, 2018 in connection with the transition to IFRS 15.

Based on its analyses, BASF does not expect any further material effects on its results of operations or net assets. IFRS 15 will have a minor impact on BASF, as contracts with customers of BASF generally only give rise to a single performance obligation in each case, which is to be fulfilled at a certain point in time.

BASF will apply IFRS 15 for the first time from January 1, 2018. The modified retrospective method will be used for first-time adoption. The introduction of the new standard will lead to changes in the balance sheet in the form of the new balance sheet items "contract assets" and "contract liabilities," as well as additional quantitative and qualitative disclosures in the notes.

IFRS 16 – Leases

The IASB published the new standard on leasing, IFRS 16, on January 13, 2016. The rules and definitions of IFRS 16 supersede the content of IAS 17, IFRIC 4, SIC 15 and SIC 27. The standard requires an accounting model for a lessee that recognizes all right-of-use assets and liabilities from lease agreements in the balance sheet, unless the term is twelve months or less or the underlying asset is of low value (up to $5,000). As for the lessor, the new standard substantially carries forward the accounting requirements of IAS 17 – Leases. The European Union endorsed the new standard in the fourth quarter of 2017. The new standard will be effective for reporting periods beginning on or after January 1, 2019. BASF does not plan on an early adoption of these amendments.

BASF has started to analyze the potential effects on its Consolidated Financial Statements and plans to make use of the practical expedients. However, it is assumed that a significant number of leasing agreements that today represent operating leases are to be reported in the balance sheet. As well as increasing BASF's total assets, the type of expenses associated with operating leases will change, as IFRS 16 replaces the straight-line expenses for operating leases with a depreciation charge for right-of-use assets and interest expenses on liabilities arising from the lease. BASF plans to recognize the adjustments arising from the transition to IFRS 16 using the modified retrospective method as a cumulative effect directly in other retained earnings as of January 1, 2019 without a restatement of comparative information.

For more information on leasing, see Note 28 from page 228 onward

Annual Improvements to IFRSs (2014–2016): Three IFRSs were amended in the Annual Improvements to IFRSs (2014–2016) of which both the following amendments are mandatory as of January 1, 2018: In IAS 28, it was clarified that the election to measure an investment in an associated company or a joint venture held by an entity that is a venture capital organization or other qualifying entity, can be exercised on an investment-by-investment basis. The short-term exemptions in IFRS 1, Appendix E (IFRS 1.E3–E7) for first-time IFRS users were deleted. The amendments were endorsed by the European Union in the first quarter of 2018. They are not expected to have any material effect on BASF.

Amendments to IAS 28 – Long-term interests in associates and joint ventures

On October 12, 2017, the IASB published amendments to IAS 28 on long-term interests in associated companies and joint ventures. These amendments clarify that IFRS 9 is to be applied to long-term interests in associated companies or joint ventures that are not accounted for using the equity method. The amendment – subject to E.U. endorsement – is mandatory as of January 1, 2019. The effects are explained under IFRS 9 – Financial Instruments in Note 1.2: Changes in accounting principles.

The IASB issued further amendments to standards and interpretations whose application is not yet mandatory and is still subject to E.U. endorsement. These amendments are unlikely to have a material impact on the reporting of BASF SE. BASF does not plan on early adoption of these amendments.

Amendments to IFRS 10 and IAS 28 – Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

The IASB issued amendments to IFRS 10 and IAS 28 on September 11, 2014. The amendments address a known inconsistency between the requirements of IFRS 10 and IAS 28 (2011) in the case of the sale of an asset to an associated company or a joint venture or the contribution of an asset to an associated company or a joint venture.

IASB has postponed the effective date of the changes indefinitely.

Amendments to IFRS 2 – Classification and Measurement of Share-Based Payment Transactions: The amendments involve a number of individual issues pertaining to the accounting of cash-settled share-based payment transactions. The amendments relate to the calculation of fair value of obligations arising from share-based payment transactions. The amendments are – pending E.U. endorsement – to be applied to compensation granted or changed in business years beginning on or after January 1, 2018.

Amendments to IFRS 9 – Financial assets with a prepayment feature with negative compensation:

The amendments pertain to a limited adjustment of the relevant criteria for the classification of financial assets. Financial assets with a prepayment feature with negative compensation may be recognized under certain conditions at amortized cost or at fair value through other comprehensive income instead of at fair value through profit and loss.

The amendments are – subject to E.U. endorsement – effective on January 1, 2019.

Supplementary information on IFRIC 22 – Foreign Currency Transactions and Advance Consideration: IFRIC 22 addresses an application question for IAS 21 – The Effects of Changes in Foreign Exchange Rates. It clarifies the point in time for determining the exchange rate used to translate foreign-currency transactions containing advance payments that have been made or received. The underlying asset, income or expense is translated using the relevant exchange rate on the date on which the asset or liability resulting from the prepayment was first recognized. The interpretation is – pending E.U. endorsement – to be applied in the first reporting period of a business year beginning on or after January 1, 2018.

IFRIC 23 – Uncertainty over Income Tax Treatments: IFRIC 23 expands on the requirements in IAS 12 on how to account for uncertainties surrounding the income tax treatment of circumstances and transactions. IFRIC 23 is – subject to E.U. endorsement – effective for reporting periods beginning on or after January 1, 2019.

Annual Improvements to IFRSs (2015–2017): Four IFRSs were amended in the Annual Improvements to IFRSs (2015–2017).

In IFRS 3, it was clarified that when a party to a joint arrangement obtains control of a business that is a joint operation and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. The acquirer shall therefore apply the requirements for a business combination achieved in stages, including remeasuring its previously held interest in the joint operation.

In IFRS 11, it was clarified that when an entity obtains joint control of a business that is a joint operation and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the previously held interest in that business is not to be remeasured.

IAS 12 was amended to the extent that all income tax effects of dividend payments must be considered in the same way as the income on which the dividends are based.

Finally, in IAS 23, it was determined that when entities borrow funds in general for the acquisition of qualifiying assets that those costs for borrowed capital specifically for the acquisition of qualifying assets should not be considered in the determination of the financing rate until their completion.

The amendments are – subject to E.U. endorsement – to be applied for the first time in the reporting period beginning on or after January 1, 2019.

1.3 Group accounting principles

Scope of consolidation: The scope of consolidation is based on the application of the standards IFRS 10 and 11.

According to IFRS 10, a group consists of a parent entity and the subsidiaries controlled by the parent. “Control” of an investee assumes the simultaneous fulfillment of the following three criteria:

- The parent company holds decision-making power over the relevant activities of the investee
- The parent company has rights to variable returns from the investee
- The parent company can use its decision-making power to affect the variable returns

Based on corporate governance and potential supplementary agreements, companies are analyzed for their relevant activities and variable returns, and the link between the variable returns and the extent to which their relevant activities could be influenced.

According to IFRS 11, which regulates the accounting of joint arrangements, a distinction must be made between joint ventures and joint operations. In the case of a joint venture, the parties that have joint control of a legally independent company have rights to the net assets of that arrangement. In joint operations, the parties that have joint control have direct rights to the assets and obligations for the liabilities relating to the arrangement. This requirement is particularly fulfilled if the production output of the joint arrangement is almost entirely transferred to the partners, through which the partners guarantee the joint arrangements’ ongoing financing.

Companies whose corporate governance structures classify them as joint arrangements are analyzed to determine if they meet the criteria for joint ventures or joint operations as per IFRS 11. Should the arrangement be structured through a separate vehicle, its legal form, contractual arrangements and all other facts and circumstances are reviewed.

In addition to BASF SE, the Consolidated Financial Statements include all material subsidiaries on a fully consolidated and all material joint operations on a proportionally consolidated basis. Companies whose business is dormant or of low volume, and are of minor importance for the presentation of a true and fair view of the net assets, financial position and results of operations, are not consolidated, but rather are reported under other shareholdings. These companies are carried at amortized cost and are written down in the case of an impairment. The aggregate assets and equity of these companies amount to less than 1% of the corresponding value at the Group level.

Joint ventures and associated companies are accounted for using the **equity method** in the Consolidated Financial Statements. Associated companies are entities in which significant influence can be exercised over their operating and financial policies and which are not subsidiaries, joint ventures or joint operations. In general, this applies to companies in which BASF has an investment of between 20% and 50%. Equity-accounted income is reported as part of income from operations (EBIT).

Consolidation methods: Assets and liabilities of consolidated companies are uniformly recognized and measured in accordance with the principles described herein. For equity-accounted companies, material deviations in measurement resulting from the application of other accounting principles are adjusted for.

Transactions between consolidated companies as well as intercompany profits resulting from trade between consolidated companies are eliminated in full; for joint operations, they are proportionally 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. Finally, the acquisition cost is compared with the proportional share of the net assets acquired at fair value. The resulting positive differences are capitalized as goodwill. Negative differences are reviewed once more, then recognized directly in the income statement.

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

Foreign currency translations: The cost of assets acquired in foreign currencies and revenue from sales in foreign currencies are determined by the exchange rate on the date of the transaction. Foreign currency receivables and liabilities are valued at the exchange rates on the balance sheet date. Changes in assets and liabilities arising from foreign currency translation are recognized in the income statement, and reported under other operating expenses or income, other financial result, and in the case of available-for-sale financial assets, in other comprehensive income.

Translation of foreign currency financial statements: The translation of foreign currency financial statements depends on the functional currency of the consolidated companies. For companies whose functional currency is not the euro, translation into the reporting currency is based on the closing rate method: Balance sheet items are translated into euros using closing rates on the balance sheet date; expenses and income are translated into euros at monthly average rates and accumulated for the year. The difference between a company's translated equity at historical rates at the time of acquisition or retention and its equity at closing rates on the balance sheet date is reported separately in equity under other comprehensive income (translation adjustments) and is recognized in income only upon the company's disposal.

For certain companies outside the eurozone or U.S. dollar zone, the euro or U.S. dollar is the functional currency. In such cases, the translation into the functional currency of financial statements prepared in the local currency is done according to 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 (€1 equals)

	Closing rates		Average rates	
	Dec. 31, 2017	Dec. 31, 2016	2017	2016
Brazil (BRL)	3.97	3.43	3.60	3.86
China (CNY)	7.80	7.32	7.63	7.35
Great Britain (GBP)	0.89	0.86	0.88	0.82
Japan (JPY)	135.01	123.40	126.68	120.20
Malaysia (MYR)	4.85	4.73	4.85	4.58
Mexico (MXN)	23.66	21.77	21.32	20.67
Norway (NOK)	9.84	9.09	9.33	9.29
Russia (RUB)	69.39	64.30	65.92	74.14
Switzerland (CHF)	1.17	1.07	1.11	1.09
South Korea (KRW)	1,279.61	1,269.36	1,276.52	1,284.18
United States (USD)	1.20	1.05	1.13	1.11

1.4 Accounting policies

Revenue recognition

Revenues from the sale of goods or the rendering of services are recognized upon the transfer of ownership and risk to the buyer. They are measured at the fair value of the consideration received. Sales revenues are reported without consumption taxes. Expected rebates and other trade discounts are accrued or deducted. Provisions are recognized according to the principle of individual measurement to cover probable risks related to the return of products, future warranty obligations and other claims.

Revenues from the sale of precious metals to industrial customers are recognized at the time of shipment and the corresponding purchase prices are recorded at cost of sales. In the trading of precious metals and their derivatives with broker-traders, where there is usually no physical delivery, revenues are netted against their corresponding costs. Revenues from marketing the natural gas from the Yuzhno Russkoye gas field are treated in the same manner.

Income relating to the sale or licensing of technologies or technological expertise are recognized in the income statement according to the contractually agreed-upon transfer of the rights and obligations associated with those technologies.

Assets

Acquired intangible assets (excluding goodwill) with defined useful lives are generally measured at cost less straight-line amortization. The useful life is determined using the period of the underlying contract or the period of time over which the intangible asset can be expected to be used.

Impairments are recognized if the recoverable amount of the asset is lower than the carrying amount. The recoverable amount is the higher of either fair value less costs to sell or the value in use. The value in use is determined on the basis of future cash inflows and outflows, and the weighted average cost of capital after taxes, depending on tax rates and country-related risks. If the reasons for an impairment no longer exist, the write-downs are reversed up to the value of the asset, had an impairment not been recognized. Depending on the type of intangible asset, amortization is reported under cost of sales, selling expenses, research and development expenses or other operating expenses.

Intangible assets with indefinite useful lives are trade names and trademarks that have been acquired as part of acquisitions. These are measured at cost and tested for impairment annually, or if there is an indication that their value has declined.

Internally generated intangible assets primarily comprise internally developed software. Such software and other internally generated 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 estimated useful lives and amortization methods of intangible assets are based on historical values, plans and estimates. The weighted average amortization periods of intangible assets amounted to:

Average amortization in years

	2017	2016
Distribution, supply and similar rights	15	14
Product rights, licenses and trademarks	20	19
Know-how, patents and production technologies	15	14
Internally generated intangible assets	4	4
Other rights and values	5	5

Emission rights: Emission right certificates, granted free of charge by the German Emissions Trading Authority (Deutsche Emissionshandelsstelle) or a similar authority in other countries, are recognized on the balance sheet with a value of zero. Certificates purchased on the market are capitalized at cost as intangible assets. Emissions generated create an obligation to surrender the emission certificates. Emission certificates purchased on the market are subsequently measured at fair value, up to a maximum of the amount of the acquisition costs. If the fair value is lower than the carrying amount on the balance sheet date, the emission rights are impaired.

Goodwill is only written down if there is an impairment. Impairment testing takes place once a year and whenever there is an indication of an impairment. Impairment reversals are not conducted for goodwill.

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 written off 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.

Expenditures related to the scheduled maintenance of large-scale plants are separately capitalized 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 when 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.

Both movable and immovable fixed assets are for the most part depreciated using the straight-line method, with the exception of production licenses and plants in the Oil & Gas segment, which are primarily depreciated based on use in accordance with the unit of production method. The estimated useful lives and depreciation methods of property, plant and equipment are based on historical values, plans and estimates. The depreciation methods, useful lives and residual values are reviewed at each balance sheet date. The weighted average depreciation periods were as follows:

Weighted average depreciation in years

	2017	2016
Buildings and structural installations	21	22
Machinery and technical equipment	10	10
Long-distance natural gas pipelines	25	25
Miscellaneous equipment and fixtures	6	7

Impairments are recognized if the recoverable amount of the asset is lower than the carrying amount. The measurement is based on fair value less costs to sell or the value in use. The value in use is determined on the basis of future cash inflows and outflows, and the weighted average cost of capital after taxes, depending on tax rates and country-related risks. An impairment is recognized for the difference between the carrying amount and the recoverable amount. If the reasons for an impairment no longer exist, the write-downs are reversed up to the value of the asset, had an impairment not been recognized.

Investment properties held to realize capital gains or rental income are immaterial. They are valued at the lower of fair value or acquisition cost less depreciation.

Leases: A lease is an agreement whereby the lessor conveys to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments. Leasing contracts are classified as either finance or operating leases.

Assets subject to operating leases are not capitalized. Lease payments are recognized in the income statement in the period they are incurred.

A lease is classified as a finance lease if it substantially transfers all the risks and rewards related to the leased asset. Assets subject to a finance lease are capitalized at the lower of the fair value of the leased assets or the present value of the minimum lease payments. A leasing liability is recorded in the same amount. The periodic lease payments must be divided into principal and interest components. The principal component reduces the outstanding liability, while the interest component represents an interest expense. Depreciation takes place over the shorter of the useful life of the asset or the period of the lease.

Leases can be embedded within other contracts. If separation is required under IFRS, then the embedded lease is recorded separately from its host contract and each component of the contract is carried and measured in accordance with the applicable regulations.

Borrowing costs: Borrowing costs directly incurred as part of the acquisition, construction or production of a qualifying asset are capitalized as part of the acquisition or production cost of that asset. A qualifying asset is an asset for which the time period 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. The borrowing costs were calculated based on a rate of 2.0% (2016: 2.5%) and adjusted on a country-specific basis, if necessary. All other borrowing costs are recognized as an expense in the period in which they are incurred.

Government grants: Government grants related to the acquisition or construction of property, plant and equipment reduce the acquisition or construction cost of the respective assets. Other government grants or government assistance are recognized immediately as other operating income or treated as deferred income and dissolved over the underlying period.

Investments accounted for using the equity-method: The carrying amounts of these companies are adjusted annually based on the pro rata share of net income, dividends and other changes in equity. Should there be indications of a permanent reduction in the value of an investment, an impairment is recognized in the income statement.

Inventories are measured at acquisition cost or cost of conversion based on the weighted average method. If the market price or fair value of the sales product which forms the basis for the net realizable value is lower, then the sales products are written down to this lower value. The net realizable value is the estimated price in the ordinary course of business less the estimated costs of completion and the estimated selling costs.

In addition to direct costs, cost of conversion includes an appropriate allocation of production overhead costs based on normal utilization rates of the production plants, provided that they are related to the production process. Pensions, social services and voluntary social benefits are also included, as well as allocations for administrative costs, provided they relate to the production. Borrowing costs are not included in cost of conversion.

Inventories may be written down if the prices for the sales products decline, or in cases of a high rate of days sales of inventory (DSI). Write-downs on inventories are reversed if the reasons for them no longer apply.

The exception made by IAS 2 for traders is applied to the measurement of precious metal inventories. Accordingly, inventories held exclusively for trading purposes are to be measured at fair value less costs to sell. All changes in value are recognized in the income statement.

Deferred taxes: Deferred taxes are recorded for temporary differences between the carrying amount of assets and liabilities in the financial statements and the carrying amounts for tax purposes as well as for tax loss carryforwards and unused tax credits. This also comprises 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 and have the same maturities. 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 estimated probability of a reversal of the differences and the assessment of the ability to utilize tax loss carryforwards and unused tax credits. This depends on whether future taxable profits will exist during the period in which temporary differences are reversed and in which tax loss carryforwards and unused tax credits can be claimed. The valuation 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 if the underlying transaction is not to be recognized directly in equity or in income and expenses recognized in equity. For those effects which have been recognized in equity, changes to deferred tax assets and tax liabilities are also recognized directly in equity.

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

For more information, see Note 11 from page 198 onward

Financial instruments

Financial assets and financial liabilities are recognized in the balance sheet when the BASF Group becomes a party to a financial instrument. Financial assets are derecognized when the contractual rights to the cash flows from the financial asset expire or when the financial asset, with all risks and rewards of ownership, is transferred. 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 metals trading, the day of trading is used.

The fair value of a financial instrument is the amount 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. When pricing on an active market is available, for example share prices, these are used as the basis for the measurement. Otherwise, the measurement is based on internal measurement models using current market parameters or external measurements, for example, from banks. These internal measurements predominantly use the net present value method and option pricing models.

If there is objective evidence of a permanent impairment of a financial instrument that is not measured at fair value through profit or loss, an impairment loss is recognized. If the reason for the impairment of loans and receivables as well as held-to-maturity financial instruments no longer exists, the impairment is reversed up to the amortized cost and recognized in the income statement. Impairments on financial instruments are booked in separate accounts.

Financial assets and liabilities are divided into the following measurement categories:

- **Financial assets and liabilities at fair value recognized in the income statement** consist of derivatives and other trading instruments. At BASF, this measurement category only includes derivatives. Derivatives are reported in other receivables and miscellaneous assets or other liabilities. BASF does not make use of the fair value option under IAS 39. The calculation of fair values is based on market parameters or measurement models based on such parameters. In some exceptional cases, the fair value is calculated using parameters which are not observable on the market.
- **Loans and receivables** comprise financial assets with fixed or determinable payments, which are not quoted on an active market and are not derivatives or classified as available-for-sale. This measurement category includes trade accounts receivable as well as other receivables and loans reported under other receivables and miscellaneous assets. Initial measurement is done at fair value, which generally matches the nominal value of the receivable or loan. Interest-free and low-interest long-term loans and receivables are recorded at present value. Subsequent measurement recognized in income is generally made at amortized cost using the effective interest method.

  If there is objective evidence for an impairment of a receivable or loan, an individual valuation allowance is made. When assessing the need for a valuation allowance, regional and sector-specific conditions are considered. In addition, use is made of internal and external ratings as well as the assessments of debt collection agencies and credit insurers, when available. A portion of receivables is covered by credit insurance. Bank guarantees and letters of credit are used to an insignificant extent. Valuation allowances are only recognized for those receivables which are not covered by insurance or other collateral. The valuation allowances for receivables whose insurance includes a deductible are not recognized in excess of the amount of the deductible. Write-downs are based on historical values relating to customer solvency and the age, period overdue, insurance policies and customer-specific risks. In addition, a valuation allowance must be recognized when the contractual conditions which form the basis for the receivable are changed through renegotiation in such a way that the present value of the future cash flows decreases.

  Furthermore, valuation allowances are made on receivables based on transfer risks for certain countries.

  If, in a subsequent period, the amount of the valuation allowance decreases and the decrease can be related objectively to an event occurring after the valuation allowance was made, then it is reversed in the income statement. Reversals of valuation allowances may not exceed amortized cost. Loans and receivables are derecognized when they are definitively found to be uncollectible.

- **Held-to-maturity financial assets** consist of nonderivative financial assets with fixed or determinable payments and a fixed term, for which there is the ability and intent to hold until maturity, and which do not fall under other valuation categories. Initial measurement is done at fair value, which matches the nominal value in most cases. Subsequent measurement is carried out at amortized cost, using the effective interest method.
  For BASF, there are no material financial assets that fall under this category.
- **Available-for-sale financial assets** comprise financial assets which are not derivatives and do not fall under any of the previously stated valuation categories. This measurement category comprises shareholdings reported under the item other financial assets which are not accounted for using the equity method as well as short and long-term securities.
  The measurement is carried out at fair value. Changes in fair value are recognized directly in equity (other comprehensive income) and are only recognized in the income statement when the assets are disposed of or have been impaired. Subsequent reversals are recognized directly in equity (other comprehensive income). Only in the case of debt instruments, reversals are recognized in the income statement up to the amount of the original impairment; reversals above this amount are recognized directly in equity. If the fair value of available-for-sale financial assets decreases below acquisition costs, the assets are impaired if the decline in value is material and can be considered lasting. The fair values are determined using market prices. Shareholdings whose fair value cannot be reliably determined are carried at acquisition cost and are written down in the case of an impairment. When determining the value of these shareholdings, the acquisition costs constitute the best estimate of their fair value. This category of shareholdings includes investments in other shareholdings, provided that these shares are not publicly traded. There are no plans to sell significant shares in these shareholdings.
- **Financial liabilities which are not derivatives** are initially measured at fair value, which normally corresponds to the amount received. Subsequent measurement is carried out at amortized cost, using the effective interest method.
- **Cash and cash equivalents** consist primarily of cash on hand and bank balances with maturities of less than three months.

Income from interest-bearing assets is recognized on the outstanding receivables on the balance sheet date using interest rates calculated by means of the effective interest method. Dividends from shareholdings not accounted for using the equity method are recognized when the shareholders' right to receive payment is established.

Derivative financial instruments can be embedded within other contracts. If IFRS requires separation, then the embedded derivative is accounted for separately from its host contract and measured at fair value.

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 the financial guarantee. Financial guarantees given by BASF are measured at fair value upon initial recognition. In subsequent periods, financial guarantees are carried at the higher of amortized cost or the best estimate of the present obligation on the reporting date.

Cash flow hedge accounting is applied in selected cases to hedge future transactions. The effective portion of the change in fair value of the derivative is thereby recognized directly in equity under other comprehensive income, taking deferred taxes into account. The ineffective portion is recognized immediately in the income statement. In the case of future transactions that will lead to a nonfinancial asset or a nonfinancial debt, the cumulative fair value changes in equity are either charged against the acquisition costs on initial recognition or recognized in profit or loss in the reporting period in which the hedged item is recorded in the income statement. For hedges based on financial assets or debts, the 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 determined based on the effective date of the future transaction.

When **fair value hedges** are used, the asset or liability is hedged against the risk of a change in fair value. Here, changes in the market value of the derivative financial instruments are recognized in the income statement. Furthermore, the carrying amount of the underlying transaction is adjusted by the profit or loss resulting from the hedged risk, offsetting the effect in the income statement.

Other comprehensive income

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 translation adjustments, the measurement of securities at fair value, and changes in the fair value of derivatives held to hedge future cash flows and net investments in a foreign operation. Items in other comprehensive income that will not be reclassified to the income statement at a future date include effects from the remeasurement of defined benefit plans.

Debt

Provisions for pensions and similar obligations: Provisions for pensions are based on actuarial computations made according to the projected unit credit method. In doing so, assumptions for valuation parameters include: future developments in compensation, pensions and inflation, employee turnover and the life expectancy of beneficiaries. The resulting obligations are discounted on the balance sheet date using the market yields on high-quality corporate fixed-rate bonds with a minimum of one AA rating.

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 calculation of pension provisions is based on actuarial reports.

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.

For more information on provisions for pensions and similar obligations, see Note 22 from page 211 onward

Other provisions: Other provisions are recognized when there is a present obligation as a result of a past event and when there is a probable outflow of resources whose amount can be reliably estimated. Provisions are recognized at the probable settlement value.

Provisions for German trade income tax, German corporate income tax and similar income taxes are determined and recognized in the amount necessary to meet the expected payment obligations less any prepayments that have been made. Other taxes to be assessed are considered accordingly.

Provisions are established for certain environmental protection measures and risks if there exists a present legal or constructive obligation arising from a past event, and the expected cash outflow can be estimated with sufficient reliability. Provisions for restoration obligations primarily concern the filling of wells and the removal of production facilities upon the termination of production in the Oil & Gas segment. When the obligation arises, the provision is measured at the present value of the future restoration costs. An asset is capitalized for the same amount as part of the carrying amount of the plant concerned and is depreciated along with the plant. The discount on the provision is unwound annually until the time of the planned restoration.

In addition, other provisions also cover expected costs for rehabilitating contaminated sites, recultivating landfills, removal of environmental contamination from existing production or storage sites and similar measures. If BASF is the only responsible party that can be identified, the provision covers the entire expected claim. At sites operated together with one or more partners, the provision generally covers only BASF's share of the expected claim. The determination of the amount of the provision is based on the available technical information on the site, the technology used, legal regulations, and official obligations.

Provisions are recognized for expected severance payments or similar personnel expenses as well as for demolition expenses and other charges related to restructuring measures that have been planned and publicly announced by management.

Provisions for long-service and anniversary bonuses are predominantly calculated based on actuarial principles. For contracts signed under early retirement programs, approved supplemental payments are accrued in installments until the end of the exemption phase at the latest. Accounting and measurement follow the German Accounting Standards Committee e.V.'s Application Note 1 (IFRS) of December 2012.

Other provisions also cover risks resulting from legal disputes and proceedings, provided the criteria for recognizing a provision are fulfilled. In order to determine the amount of the provisions, the Company takes into consideration the facts related to each case, the size of the claim, claims awarded in similar cases and independent expert advice as well as assumptions regarding the probability of a successful claim and the range of possible claims. The actual costs can deviate from these estimates.

For more information, see Note 26 on page 221

The probable amount required to settle noncurrent provisions is discounted if the effect of discounting is material. In this case, the provision is recognized at present value. Assumptions must be made in determining the discount rate (2017: 2.0%; 2016: 2.5%) used for calculating noncurrent provisions. Financing costs related to unwinding the discount of provisions in subsequent periods are shown in other financial result.

Other accounting policies

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 exchange, as well as the useful lives of the acquired assets, are determined on the basis of assumptions. The measurement is largely based on projected cash flows. The actual cash flows can significantly deviate from these estimates. Independent external appraisals are used for the purchase price allocation of material business combinations. Valuations in the course of business combinations are based on existing information as of the acquisition date.

Groups of assets and liabilities held for sale, that is disposal groups, as well as discontinued operations held for sale: These comprise those assets and directly associated liabilities shown separately on the balance sheet whose sale in the context of a single transaction is highly probable. A transaction is estimated to be highly probable, if there are no significant risks of completion of the transaction, which usually requires the conclusion of binding contracts. The assets and liabilities of disposal groups are recognized at the lower of the sum of their carrying amounts or fair value less costs to sell; this does not apply to assets which do not fall under the valuation principles of IFRS 5. Scheduled depreciation of noncurrent assets and the use of the equity method are suspended.

Oil and gas production: Exploration and development expenditures 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.

An exploration well is a well located outside of an area with proven oil and gas reserves. A development well is a well which is drilled to the depth of a reservoir of oil or gas within an area with proven reserves.

Exploratory drilling is generally reported under construction in progress until its success can be determined. When the presence of hydrocarbons is proven such that the economic development of the field is probable, the costs remain capitalized as suspended well costs. At least once a year, all suspended wells are assessed from an economic, technical and strategic viewpoint to see if development is still intended. If this is not the case, the capitalized costs for the well in question are impaired. When reserves are proven, the exploration wells are reclassified as machinery and technical equipment when production begins.

Production costs include all costs incurred to operate, repair and maintain the wells as well as the associated plant and ancillary production equipment, including the associated depreciation.

The unit of production method is used to depreciate assets from oil and gas production at the field or reservoir level. Depreciation is generally calculated on the basis of the production of the period in relation to the proven, developed reserves.

Exploration expenses pertain exclusively to the Oil & Gas segment and include all costs related to areas with unproven oil or gas deposits. These include costs for the exploration of areas with possible oil or gas deposits, among others. Costs for geological and geophysical investigations are always reported under exploration expenses. In addition, this item includes valuation allowances for capitalized expenses for exploration wells which did not encounter proven reserves. Depreciation of successful exploratory drilling is reported under cost of sales.

An Exploration and Production Sharing Agreement is a type of contract in crude oil and gas concessions whereby the expenses and profits from the exploration, development and production phases are divided between the state and one or more exploration and production companies using defined keys. The revenue BASF is entitled to under such contracts is reported as sales.

The intangible asset from the marketing contract for natural gas from the Yuzhno Russkoye natural gas field is amortized based on BASF's share of the produced and distributed volumes.

Intangible assets in the Oil & Gas segment relate primarily to exploration and production rights. During the exploration phase, these are not subject to amortization but are tested for impairment annually. When economic success is determined, the rights are amortized in accordance with the unit of production method.

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 in the Consolidated Financial Statements depends on the use of estimates, assumptions and use of discretionary scope. Specific estimates or assumptions used in individual accounting or valuation methods are disclosed in their respective sections. They are based on the circumstances and estimates on the balance sheet date and affect the reported amounts of income and expenses during the reporting periods. These assumptions particularly concern discounted cash flows in the context of impairment tests and purchase price allocations; the determination of useful lives of property, plant and equipment and intangible assets; the carrying amount of shareholdings; and the measurement of provisions for such things as employee benefits, warranties, trade discounts, environmental protection and taxes. Although uncertainty is appropriately incorporated in the valuation factors, actual results can differ from these estimates.

The assumptions regarding the long-term development of oil and gas prices are significant for impairment tests in the Oil & Gas segment. The internal company projections are based on an empirical analysis of the global oil and gas supply and demand. Short-term estimates up to three years also consider the current prices on active markets or forward transactions. In long-term estimates, assumptions are made regarding factors such as inflation, production quantities and costs as well as energy efficiency and the substitution of energy sources. Using external sources and reports, the oil and gas price estimates are regularly checked for plausibility.

For planning purposes in 2018, BASF is using an average yearly price for oil of $65/bbl (Brent) and for gas of approximately €16/MWh (roughly $5.5/mmBtu).

In line with global growth, the demand for oil and gas will continue to increase. Higher marginal costs of production and the currently modest levels of investment should lead to a significant increase in prices in the medium to long-term. Considering the current high levels of oil inventories and the assumption of a longer-term increase in oil supplies from the United States, the oil price scenario has been adjusted compared with the previous year and is now expected to reach $100 only by 2022. BASF's gas price scenario assumes only a moderate increase in gas prices in the E.U. in the next few years due to overcapacity in gas liquefaction (LNG). Afterwards, a significant increase up to around €30/MWh (approximately $11/mmBTU) is expected by 2025 as a result of further increasing demand and higher costs of new production and liquefaction projects.

Impairment tests on assets are carried out whenever certain triggering events indicate that an impairment may be necessary. External triggering events include, for example, changes in customer industries, technologies used and economic downturns. Internal triggering events for an impairment test include lower product profitability, planned restructuring measures or physical damage to assets.

Impairment tests are based on a comparison of the carrying amount and the recoverable amount. The recoverable amount is the higher of fair value less costs to sell and the value in use. As a rule, value in use is determined using the discounted cash flow method. The estimation of cash flows and the assumptions used consider all information available on the respective balance sheet date on the future development of the operating business. Actual future developments may vary. Impairment testing relies upon the cash-generating unit's long-term earnings forecasts, which are based on economic trends. The weighted average cost of capital (WACC) based on the Capital Asset Pricing Model plays an important role in impairment testing. It comprises a risk-free rate, the market risk premium and the spread for the credit risk. Additional important assumptions are the forecasts for the detailed planning period and the terminal growth rates used.

For more information, see Note 14 from page 201 onward

An impairment is recognized if the recoverable amount of the asset is lower than the carrying amount. The impairment of the asset (excluding goodwill) is made in the amount of the difference between these amounts.

The goodwill impairment test is based on cash-generating units. At BASF, these largely correspond to the business units, or in individual cases the divisions. If there is a need for a valuation allowance, the existing goodwill is, if necessary, completely written off as a first step. If there is further need for a valuation allowance, this is allocated to the remaining assets of the cash-generating unit. Goodwill impairments are reported under other operating expenses.

2 Scope of consolidation

2.1 Changes in scope of consolidation

In 2017, the scope of consolidation for the Consolidated Financial Statements encompassed 294 companies (2016: 294). Of this number, 10 companies were first-time consolidations (2016: 46). Since the beginning of 2017, a total of 10 companies (2016: 10) were deconsolidated due to divestiture, merger, liquidation or immateriality.

First-time consolidations in 2017 comprised:

- Five acquired companies with headquarters in the regions Europe and North America
- One newly established company with headquarters in Asia Pacific
- One newly established company with headquarters in the South America, Africa, Middle East region
- Three companies headquartered in Europe that had not been consolidated at the time of the first inclusion in the Consolidated Financial Statements.

First-time consolidations in 2016 comprised:

- 33 companies in connection with the acquisition of Chemetall registered in all regions
- Two newly established companies with headquarters in the regions Asia-Pacific and North America
- 11 companies headquartered in all regions which had not been consolidated at the time of the first inclusion in the Consolidated Financial Statements. Thereof eight were newly established in 2016.

While BASF does not hold majority shares in ZAO Gazprom YRGM Trading, BASF is entitled to the earnings of the company due to profit distribution arrangements, so that the company is fully consolidated in the Group Consolidated Financial Statements.

A list of companies included in the Consolidated Financial Statements and a list of all companies in which BASF SE has a shareholding as required by section 313(2) of the German Commercial Code is provided in the List of Shares Held.

For more information, see Note 3 on page 190

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

Scope of consolidation

	Europe	Thereof Germany	North America	Asia Pacific	South America, Africa, Middle East	2017	2016
As of January 1	**154**	**57**	**42**	**71**	**27**	**294**	**258**
Thereof proportionally consolidated	6	–	–	2	–	8	7
First-time consolidations	5	2	3	1	1	10	46
Thereof proportionally consolidated	–	–	–	–	–	–	1
Deconsolidations	6	3	2	1	1	10	10
Thereof proportionally consolidated	–	–	–	–	–	–	–
As of December 31	**153**	**56**	**43**	**71**	**27**	**294**	**294**
Thereof proportionally consolidated	6	–	–	2	–	8	8

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

	2017		2016	
	Million €	%	Million €	%
Sales	**2**	**0.0**	**.**	**0.0**
Noncurrent assets	(7)	0.0	5	0.0
Thereof property, plant and equipment	1	0.0	1	0.0
Current assets	1	0.0	(3)	0.0
Thereof cash and cash equivalents	(1)	0.0	1	0.1
Assets	**(6)**	**0.0**	**2**	**0.0**
Equity	3	0.0	(2)	0.0
Noncurrent liabilities	8	0.0	.	0.0
Thereof financial indebtedness	–	–	–	–
Current liabilities	(17)	0.1	4	0.0
Thereof financial indebtedness	–	–	2	0.1
Total equity and liabilities	**(6)**	**0.0**	**2**	**0.0**
Other financial obligations	–	–	–	–

2.2 Joint Operations

Proportionally consolidated joint operations particularly comprise:

- Ellba C.V., Rotterdam, Netherlands, which is operated jointly with Shell and produces propylene oxide and styrene monomer
- AO Achimgaz, Novy Urengoy, Russia, which is jointly operated with Gazprom for the production of natural gas and condensate
- BASF DOW HPPO Production B.V.B.A., Antwerp, Belgium, which is operated jointly with The Dow Chemical Company to produce propylene oxide

BASF holds a 50% share in each of these companies and controls them jointly with the respective partner. The companies sell their products directly to the partners. The partners ensure the ongoing financing of the companies by purchasing the production. They were therefore classified as joint operations in accordance with IFRS 11.

A majority of the activities in the Oil & Gas segment's Exploration & Production business sector take place through joint activities, which are not incorporated in separate companies. This primarily relates to activities in Germany, Norway and Argentina. These are generally accounted for as joint operations in accordance with IFRS 11 and contribute the largest part of the sales, depreciation and amortization, and fixed assets in the Oil & Gas segment.

2.3 Joint ventures and associated companies

BASF has shareholdings in two material joint ventures. BASF-YPC Company Ltd., Nanjing, China, is operated by BASF together with its partner Sinopec at the Verbund site in Nanjing. BASF's share is 50%.

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

	2017	2016
Balance sheet		
Noncurrent assets	1,254	1,515
Current assets	908	842
Thereof marketable securities, cash and cash equivalents	231	190
Assets	**2,162**	**2,357**
Equity	1,756	1,760
Noncurrent liabilities	124	204
Thereof financial indebtedness	122	190
Current liabilities	282	393
Thereof financial indebtedness	30	107
Total equity and liabilities	**2,162**	**2,357**
Statement of income		
Sales	2,761	2,358
Depreciation, amortization and impairments	207	214
Interest income	5	3
Interest expenses	9	23
Income taxes	159	110
Net income	473	332
Carrying amount according to the equity method as of the beginning of the year	**881**	**768**
Proportional net income	236	166
Proportional change of other comprehensive income	(59)	(26)
Total comprehensive income	**177**	**140**
Capital measures/dividends/changes in the scope of consolidation/other adjustments	(179)	(27)
Thereof dividends	(179)	(27)
Other adjustments of income and expenses	–	–
Carrying amount according to the equity method as of the end of the year	**879**	**881**

W & G Infrastruktur Finanzierungs-GmbH, Kassel, Germany, a joint venture between BASF and Gazprom for the bundling of the regulated gas transportation business (BASF interest: 50%), was established in August 2017. Effective November 30, 2017, GASCADE Gastransport GmbH, Kassel, Germany, which was reported as a material associated company in the previous year, and NEL Gastransport GmbH, Kassel, Germany, which was reported as a non-material associated company in the previous year, were transferred from W & G Transport Holding GmbH to W & G Infrastruktur Finanzierungs-GmbH.

Financial information on the W & G Infrastruktur Finanzierungs group, Kassel, Germany (100%) (million €)

	2017
Balance sheet	
Noncurrent assets	1,181
Current assets	721
Thereof marketable securities, cash and cash equivalents	2
Assets	**1,902**
Equity	461
Noncurrent liabilities	1,342
Thereof financial indebtedness	923
Current liabilities	99
Thereof financial indebtedness	–
Total equity and liabilities	**1,902**
Statement of income	
Sales	560
Depreciation, amortization and impairments	147
Interest income	1
Interest expenses	(8)
Income taxes	23
Net income	114
Carrying amount according to the equity method as of the beginning of the year	**–**
Proportional net income[1]	57
Proportional change of other comprehensive income	–
Total comprehensive income[1]	**57**
Capital measures/dividends/changes in the scope of consolidation/other adjustments[1]	608
Thereof dividends (includes profit and loss transfers)	(62)
Other adjustments of income and expenses[1]	(8)
Carrying amount according to the equity method as of the end of the year	**657**

[1] The disclosures also contain effects from the transfer of GASCADE Gastransport GmbH and NEL Gastransport GmbH to W & G Infrastruktur Finanzierungs-GmbH.

Additionally, W & G Infrastruktur Finanzierungs-GmbH has become party to the financing arrangement previously between WIGA Transport Beteiligungs-GmbH & Co. KG and an international banking consortium; besides WIGA Transport Beteiligungs-GmbH & Co. KG, W & G Infrastruktur Finanzierungs-GmbH functions as a further debtor and assumed €925 million of financial liabilities previously held by WIGA Transport Beteiligungs-GmbH & Co. KG against a transfer of loan receivables to GASCADE Gastransport GmbH and NEL Gastransport GmbH as well as cash. This was deposited in BASF's cash pool. In doing so, W & G Infrastruktur Finanzierungs-GmbH effectively took over the financing function for both of these companies operating in the regulated gas transportation business.

Non-material joint ventures accounted for using the equity method particularly comprise:
– Wintershall Noordzee B.V., Rijswijk, Netherlands, which is operated jointly with Gazprom (BASF interest: 50%);
– N.E. Chemcat Corporation, Tokyo, Japan, which is operated jointly with the partner Sumitomo Metal Mining Co. Ltd. (BASF interest: 50%);
– Heesung Catalysts Corporation, Seoul, South Korea, which is operated jointly with the partner Heesung (BASF interest: 50%).

Non-material joint ventures accounted for using the equity method (BASF interest) (million €)

	2017	2016
Carrying amount according to the equity method as of the beginning of the year	**823**	**825**
Proportional net income	140	(9)
Proportional change of other comprehensive income	(27)	19
Total comprehensive income	**113**	**10**
Capital measures/dividends/changes in the scope of consolidation/other adjustments	(80)	(8)
Other adjustments of income and expense	(4)	(4)
Carrying amount according to the equity method as of the end of the year	**852**	**823**

A material associated company accounted for using the equity method is Joint Stock Company Achim Trading, Moscow, Russia (BASF interest: 18.01%, economic share: 25.01%), which together with Gazprom, will market the output from blocks IV and V of the Achimov formation. The investment value in the amount of €768 million remained unchanged in comparison with the previous year and arose from the fair value measurement as a result of the asset swap with Gazprom on September 30, 2015. The company's economic activities will commence in 2020 with the scheduled start of production from blocks IV and V. Therefore, there is no relevant financial information to report according to IFRS 12 in 2017.

Non-material associated companies accounted for using the equity method particularly comprise:
– OAO Severneftegazprom, Krasnoselkup, Russia (BASF interest: 25%, economic share: 35%)
– Nord Stream AG, Zug, Switzerland, was classified as an associated company even though BASF only has a 15.5% share, as it can exercise significant influence over the company due to the fact that its approval is required for certain relevant board resolutions.
– Stahl Lux 2 S.A., Luxembourg (BASF interest: 16.6%) was classified as an associated company even though BASF only has a 16.6% share, as it can exercise significant influence over the company due to the fact that its approval is required for certain relevant board resolutions.
– Wintershall AG, Kassel, Germany, which operates Libyan exploration and production activities together with Gazprom Libyen Verwaltungs GmbH (BASF interest: 51%). Despite an investment of 51%, BASF does not exercise control according to IFRS 10, as contractual arrangements with the Libyan government strictly limit influence on variable returns after income taxes.

Non-material associated companies accounted for using the equity method (BASF interest) (million €)

	2017	2016
Carrying amount according to the equity method as of the beginning of the year	**1,554**	**1,434**
Proportional net income	151	109
Proportional change of other comprehensive income	(31)	100
Total comprehensive income	**120**	**209**
Capital measures/dividends/changes in the scope of consolidation/other adjustments	(114)	(90)
Other adjustments of income and expense	(1)	1
Carrying amount according to the equity method as of the end of the year	**1,559**	**1,554**

2.4 Acquisitions and Divestitures

Acquisitions

In 2017, BASF acquired the following activities:
– Effective January 1, 2017, BASF took over the western European Construction Chemicals business from the Henkel group with the trade names Thomsit® and Ceresit® for floor and tile-laying systems as well as sealants for professional users. This strengthened BASF's portfolio in the construction chemicals business of the PCI Group, which belongs to the Construction Chemicals division.
– On February 7, 2017, BASF acquired the private company Rolic AG headquartered in Allschwil, Switzerland. The company develops and sells ready-to-use formulations and functional film products for the display and security industry against forgery as well as barrier materials and films. With the acquisition, BASF broadened its technology know-how and product portfolio of display materials. The largest part of the activities was integrated into the Dispersions & Pigments division and a smaller part into the Coatings division.
– On May 24, 2017, BASF acquired ZedX Inc., Bellefonte, Pennsylvania. The company develops agronomic weather, crop and pest models that can rapidly translate data into insights for more efficient agricultural production. The integration of the business into the Crop Protection division strengthens BASF's activities in the area of digital agriculture.
– On September 4, 2017, BASF completed the acquisition of GRUPO Thermotek, a leading manufacturer of waterproofing systems in Mexico with headquarters in Monterrey, Mexico. The acquisition strengthens the Construction Chemicals division's sales channels and its product portfolio, especially in Mexico. The transaction includes trademarks such as Thermotek® and Chovatek®.

The purchase prices for businesses acquired in 2017 and the purchase price adjustments for acquisitions from 2016 totaled €154 million including a contingent consideration; as of December 31, 2017, payments made for these amounted to €155 million. The purchase price allocations were carried out in accordance with IFRS 3. The resulting goodwill amounted to €97 million. The purchase price allocations consider all the facts and circumstances prevailing as of the respective dates of acquisition that were known prior to the preparation of these Consolidated Financial Statements. In accordance with IFRS 3, should further facts and circumstances become known within the 12-month measurement period, the purchase price allocation will be adjusted accordingly.

In 2016, BASF acquired the following activities:

- On September 26, 2016, BASF concluded the acquisition of Guangdong Yinfan Chemistry ("Yinfan") in Jiangmen, China, and integrated the business into the Coatings division. This acquisition enabled BASF to expand its portfolio of automotive refinish coatings in Asia Pacific with the addition of the Yinfan product range and gain access to a state-of-the-art production plant for automotive refinish coatings in China.
- On December 14, 2016, BASF concluded the acquisition of the global surface treatment provider Chemetall from Albemarle Corp., Charlotte, North Carolina. The acquisition complements the Coating division's portfolio by adding customized technology and system solutions for the treatment of surfaces. The purchase price, after adjustments to the net financial debt and net working capital, amounted to $3.1 billion.

The preliminary purchase price allocation for the acquisition of Chemetall was reviewed at the end of the 12-month measurement period in accordance with IFRS 3 and corrected to reflect more detailed information on tax matters, provisions for pensions and a retroactive purchase price adjustment. This reduced net working capital by €13 million. Taking into account a cash-effective adjustment, the total purchase price rose by €6 million. Overall, the adjustments increased goodwill by €19 million to €1,564 million. The goodwill recognized resulted primarily from sales synergies arising from the expansion of the portfolio, and to a smaller extent from cost synergies.

The following overview shows the effects of the acquisitions conducted in 2017 and 2016 on the Consolidated Financial Statements. If acquisitions resulted in the transfer of assets or the assumption of additional liabilities, these are shown as a net impact.

Effects of acquisitions and changes in the preliminary purchase price allocations

	2017		2016	
	Million €	%	Million €	%
Goodwill	97	1.0	1,552	15.4
Other intangible assets	138	3.3	1,237	24.3
Property, plant and equipment	8	.	155	0.6
Financial assets	3	0.1	45	0.9
Other noncurrent assets	(3)	(0.1)	20	0.5
Noncurrent assets	**243**	**0.5**	**3,009**	**6.0**
Current assets	**18**	**0.1**	**358**	**1.4**
Thereof cash and cash equivalents	5	0.1	81	5.9
Total assets	**261**	**0.3**	**3,367**	**4.4**
Equity	**–**	**–**	**–**	**–**
Noncurrent liabilities	**40**	**0.1**	**356**	**1.2**
Thereof financial indebtedness	–	–	–	–
Current liabilities	**66**	**0.4**	**162**	**1.1**
Thereof financial indebtedness	–	–	–	–
Total equity and liabilities	**106**	**0.1**	**518**	**0.7**
Payments made for acquisitions	**155**		**2,849**	

Divestitures

In 2017, BASF sold the following activities:

- On February 28, 2017, BASF sold its inorganic specialties business to Edgewater Capital Partners LP, Cleveland, Ohio. The transaction comprised the production site in Evans City, Pennsylvania, and the product lines for special alcoholates, boranes and alkali metals manufactured there in the Intermediates division.
- On July 17, 2017, BASF sold its Bleaching Clay and Mineral Adsorbents businesses to EP Minerals LLC, based in Reno, Nevada. The divestiture affected one global business unit in the Catalysts division and comprises a production site as well as a bleaching clay mine in Mississippi and the mineral rights sublease for a mine in Arizona. Sixty-six employees transferred to EP Minerals LLC.
- On September 29, 2017, BASF completed the combination of the global leather chemicals business in the Performance Chemicals division with the Stahl group. The transaction comprised the global leather chemicals business, as well as the leather chemicals production site in L'Hospitalet, Spain. Around 210 jobs were affected worldwide, 110 of which were in Asia. Under the terms of the agreement, BASF received a 16% minority interest in the Stahl group as well as a payment; this resulted in special income. Furthermore, in the medium to long term, BASF will supply Stahl with significant volumes of leather chemicals.
- On September 30, 2017, BASF concluded the sale of its production site for electrolytes in Szhou, China, to Shenzhen Capchem Technology Co. Ltd., based in Shenzhen, China. The site was allocated to the Catalysts division.

In 2016, BASF sold the following activities:

– On June 30, 2016, BASF completed the sale of its global polyolefin catalysts business to W.R. Grace & Co., Columbia, Maryland. The transaction involved technologies, patents, trademarks and the transfer of production plants in Pasadena, Texas, and Tarragona, Spain. Around 170 employees transferred to Grace. These activities had been assigned to the Catalysts division.
– On August 26, 2016, BASF sold its worldwide photoinitiator business in the Dispersions & Pigments division to IGM Resins B.V., Waalwijk, Netherlands. The transaction comprised technology, patents, trademarks, customer relationships, contracts and inventories as well as the photoinitiator production site in Mortara, Italy. The sale affected 120 employees worldwide.
– On December 14, 2016, BASF sold the Coatings division's industrial coatings business to the AkzoNobel Group. The transaction included technologies, patents and trademarks, customer relationships, inventories as well as the transfer of two production sites in England and in South Africa.

The following overview shows the effects of the divestitures conducted in 2017 and 2016 in the Consolidated Financial Statements. The line item sales reflects the year-on-year decline resulting from divestitures. The impact on equity relates mainly to gains and losses from divestitures.

Effects of divestitures

	2017		2016	
	Million €	%	Million €	%
Sales	**(460)**	**(0.8)**	**(10,718)[1]**	**(15.2)**
Noncurrent assets	**93**	**0.2**	**(234)**	**(0.5)**
Thereof property, plant and equipment	(50)	(0.2)	(97)	(0.4)
Current assets	**(48)**	**(0.2)**	**(64)**	**(0.3)**
Thereof cash and cash equivalents	–	–	–	–
Total assets	**45**	**0.1**	**(298)**	**(0.4)**
Equity	**239**	**0.7**	**467**	**1.4**
Noncurrent liabilities	**(13)**	**.**	**(63)**	**(0.2)**
Thereof financial indebtedness	–	–	–	–
Current liabilities	**(4)**	**.**	**(1)**	**.**
Thereof financial indebtedness	–	–	–	–
Total equity and liabilities	**222**	**0.3**	**403**	**0.5**
Payments received from divestitures	**177**		**701**	

[1] Thereof from the asset swap with Gazprom: €10.244 million (–14.5%)

Agreed-upon transactions

On September 18, 2017, BASF signed an agreement with the Solvay group on the acquisition of Solvay's global polyamide business. Solvay and BASF aim to close the transaction in the third quarter of 2018 after regulatory approvals have been obtained and the consent of a joint venture partner has been received. The acquisition would complement BASF's engineering plastics portfolio and expand the company's position as a solutions provider for the transportation, construction and consumer goods industries as well as for other industrial applications. BASF plans to integrate the global polyamide business into the Performance Materials and Monomers divisions. The purchase price on a cash and debt-free basis and excluding other adjustments is €1.6 billion. If the transaction is not concluded, the agreement provides for, subject to certain conditions, a payment of €150 million from BASF to Solvay.

On October 13, 2017, BASF announced that it had signed an agreement on the acquisition of significant parts of Bayer's seed and non-selective herbicide businesses. The assets to be acquired include Bayer's global glufosinate-ammonium business, commercialized under the Liberty®, Basta® and Finale® trademarks, as well as its seed businesses for key row crops in selected markets. The transaction also covers Bayer's trait research and breeding capabilities for these crops. BASF will acquire the manufacturing sites for glufosinate-ammonium production and formulation in Germany, the United States and Canada, seed breeding facilities in the Americas and Europe as well as trait research facilities in the United States and Europe. With the acquisition, which is expected in the first half of 2018 subject to the closing of Bayer's acquisition of Monsanto and approval by the relevant authorities, BASF will expand its crop protection business, strengthen the herbicide portfolio and enter into its own seed business in key agricultural markets. More than 1,800 employees are to be transferred to BASF with the acquisition, strengthening the Crop Protection division. The purchase price amounts to €5.9 billion, subject to certain adjustments at closing.

Intended transactions

On December 7, 2017, BASF signed a letter of intent with the LetterOne group on the merger of their respective oil and gas businesses in a joint venture, which would operate under the name Wintershall DEA. The definitive transaction agreements are to be negotiated over the coming months; the transaction could close in the second half of 2018, subject to the customary regulatory approvals. There is no assurance that BASF will enter into definitive transaction agreements with LetterOne or that the intended transaction will be consummated. Due to this uncertainty, BASF continues to report Oil & Gas as continuing operations.

For more information, see the Management's report on page 86 onward

3 BASF Group List of Shares Held in accordance with section 313(2) of the German Commercial Code

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

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

4 Reporting by segment and region

BASF's business is conducted by thirteen operating divisions aggregated into five segments for reporting purposes. The divisions are allocated to the segments based on their business models.

The Chemicals segment comprises the classic chemicals business with basic chemicals and intermediates. The focus is on cost leadership in the value chains, efficient and reliable production and logistics processes, as well as process innovation. The segment forms the core of BASF's Production Verbund and is the starting point for a majority of the value chains. In addition to supplying the chemical industry and numerous other sectors, Chemicals ensures that other BASF segments are supplied with chemicals for producing downstream products. The Chemicals segment is composed of the Petrochemicals, Monomers and Intermediates divisions.

The Performance Products segment consists of the Dispersions & Pigments, Care Chemicals, Nutrition & Health and Performance Chemicals divisions. Tailored solutions play a key role. They enable our customers to improve the application properties of their products or optimize production processes, for example. Close customer contact and meeting the demanding requirements of a wide range of industries are crucial to business success. As of January 1, 2017, the activities of the Monomers and Dispersions & Pigments divisions for the electronics industry were merged into the global business unit Electronic Materials in the Dispersions & Pigments division within the Performance Products segment. BASF thereby strengthens its position as a strategic partner for the large electronic producers. The 2016 figures have been restated accordingly.

The Functional Materials & Solutions segment bundles system solutions, services and innovative products for specific sectors and customers, especially the automotive, electrical, chemical and construction industries, as well as applications for household, sports and leisure. An in-depth understanding of applications, the development of innovations in close cooperation with customers, and adaptation to different regional needs are key success factors. The segment is made up of the Catalysts, Construction Chemicals, Coatings, and Performance Materials divisions.

The Agricultural Solutions segment includes the Crop Protection division, which is active in the areas of chemical and biological crop protection, seed treatment and water management as well as for nutrient supply and combating plant stress. It offers farmers innovative solutions, including those based on digital technologies, combined with practical advice. Plant biotechnology research is not assigned to this segment; it is reported in Other.

The Oil & Gas segment comprises the division of the same name and focuses on the exploration and production in oil and gas rich regions in Europe, North Africa, Russia, South America and the Middle East. It benefits from strong partnerships and its technological expertise. In Europe, the segment is also active in the transportation of natural gas together with its Russian partner Gazprom.

Activities not assigned to a particular division are reported in Other. These include the sale of raw materials, engineering and other services, rental income and leases, the steering of the BASF Group by corporate headquarters, and cross-divisional corporate research. Cross-divisional corporate research, to which plant biotechnology research also belongs, works on long-term topics of strategic importance to the BASF Group. Furthermore, it focuses on the development of specific key technologies which are of central importance for the divisions.

Earnings from currency conversion that are not allocated to the segments are also reported under Other, as are earnings from the hedging of raw materials prices and foreign currency exchange risks. Furthermore, revenues and expenses from the long-term incentive (LTI) program are reported here.

Transfers between the segments are generally executed at adjusted market-based prices which take into account the higher cost efficiency and lower risk of Group-internal transactions. Assets, as well as their depreciation and amortization, are allocated to the segments based on economic control. Assets used by more than one segment are allocated based on the percentage of usage.

Income from operations (EBIT) of Other (million €)

	2017	2016
Costs for cross-divisional corporate research	(379)	(395)
Costs of corporate headquarters	(224)	(222)
Other businesses	81	39
Foreign currency results, hedging and other measurement effects	(28)	(331)
Miscellaneous income and expenses	(249)	(182)
Income from operations of Other	**(799)**	**(1,091)**

Income from operations of Other increased by €292 million year-on-year to minus €799 million. The **costs for cross-divisional corporate research** decreased by €16 million to €379 million, whereas the **costs of corporate headquarters** at €224 million were €2 million higher than in the previous year. Income from **other businesses** rose by €42 million to €81 million. The line item **foreign currency results, hedging and other measurement effects** increased by €303 million to minus €28 million. This was due to the provisions for the LTI program: Income in the amount of €68 million arising from their partial release in 2017 contrasted with expenses of €267 million from additions to provisions in the previous year. The line item **miscellaneous income and expenses** amounted to minus €249 million compared with minus €182 million in the previous year.

Assets of Other (million €)

	December 31, 2017	December 31, 2016
Assets of businesses included in Other	2,007	1,959
Financial assets	606	605
Deferred tax assets	2,118	2,513
Cash and cash equivalents/marketable securities	6,547	1,911
Defined benefit assets	70	66
Other receivables/prepaid expenses	2,328	2,320
Assets of Other	**13,676**	**9,374**

Reconciliation reporting Oil & Gas (million €)

	2017	2016
Income from operations	**1,043**	**499**
Net income from shareholdings	1	6
Other income	(126)	(74)
Income before taxes and minority interests	**918**	**431**
Income taxes	(158)	7
Income before minority interests	**760**	**438**
Minority interests	(41)	(76)
Net income	**719**	**362**

The reconciliation reporting for Oil & Gas reconciles the income from operations in the Oil & Gas segment with the contribution of the segment to the net income of the BASF Group.

Income from operations in 2017 increased significantly in comparison with the previous year. This is primarily attributable to the increase in oil and gas prices, a higher earnings contribution from our share in the Yuzhno Russkoje natural gas field, reversals of impairments in Norway and the Netherlands, and the sale of shares in the Aguada Pichana concession in Argentina. In connection with our share in the Yuzhno Russkoye natural gas field, the excess volumes received over the last 10 years prior to 2016 were compensated in the previous year as contractually agreed with our partner, Gazprom. An impairment regarding the exploration potential in Norway had an offsetting effect.

The Oil & Gas segment's **other income** relates to income and expenses not included in the segment's income from operations, interest result and other financial result. As in the previous year, other income largely consisted of currency effects from Group loans.

Positive income taxes in 2017 were primarily a result of higher income in Norway.

Segments 2017 (million €)

	Chemicals	Performance Products	Functional Materials & Solutions	Agricultural Solutions	Oil & Gas	Other	BASF Group
Sales	16,331	16,217	20,745	5,696	3,244	2,242	64,475
Intersegmental transfers	6,063	506	805	36	409	(2)	7,817
Sales including intersegmental transfers	22,394	16,723	21,550	5,732	3,653	2,240	72,292
Income from operations	4,208	1,510	1,545	1,015	1,043	(799)	8,522
Assets	13,233	14,432	17,364	8,096	11,967	13,676	78,768
Thereof goodwill	56	2,078	3,718	1,929	1,504	68	9,353
other intangible assets	103	1,048	2,045	208	804	33	4,241
property, plant and equipment	7,497	5,000	4,163	1,366	6,363	869	25,258
investments accounted for using the equity method	1,026	369	393	–	2,556	371	4,715
Debt	4,461	5,419	4,385	1,768	2,222	25,757	44,012
Research and development expenses	128	395	431	507	46	381	1,888
Additions to property, plant and equipment and intangible assets (including acquisitions)	1,149	800	1,056	185	988	186	4,364
Amortization of intangible assets and depreciation of property, plant and equipment	1,166	917	706	267	1,026	120	4,202
Thereof impairments and reversals of impairments	129	53	28	2	(79)	7	140

Segments 2016 (million €)

	Chemicals[1]	Performance Products[1]	Functional Materials & Solutions	Agricultural Solutions	Oil & Gas	Other	BASF Group
Sales	12,905	15,558	18,732	5,569	2,768	2,018	57,550
Intersegmental transfers	4,832	469	736	33	331	1	6,402
Sales including intersegmental transfers	17,737	16,027	19,468	5,602	3,099	2,019	63,952
Income from operations	1,953	1,678	2,199	1,037	499	(1,091)	6,275
Assets	13,124	14,911	17,359	8,899	12,829	9,374	76,496
Thereof goodwill	61	2,228	3,909	2,093	1,712	70	10,073
other intangible assets	136	1,227	2,305	263	1,121	37	5,089
property, plant and equipment	7,929	5,365	4,065	1,543	6,678	833	26,413
investments accounted for using the equity method	1,027	193	423	–	2,581	423	4,647
Debt	4,532	5,840	4,328	1,853	2,190	25,185	43,928
Research and development expenses	145	399	393	489	39	398	1,863
Additions to property, plant and equipment and intangible assets (including acquisitions)	1,185	892	3,679	266	1,115	121	7,258
Amortization of intangible assets and depreciation of property, plant and equipment	1,161	899	707	268	1,097	119	4,251
Thereof impairments and reversals of impairments	86	26	152	29	4	16	313

1 On January 1, 2017, the Monomers and Dispersions & Pigments divisions' activities for the electronics industry were merged into the global Electronic Materials business unit and allocated to the Dispersions & Pigments division. For better comparability, the affected figures for 2016 have been adjusted accordingly.

Regions 2017 (million €)

		Europe	Thereof Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customers							
Sales		29,214	8,359	15,357	14,343	5,561	64,475
Share	%	45.3	13.0	23.8	22.3	8.6	100.0
Location of companies							
Sales		30,778	19,873	15,937	13,658	4,102	64,475
Sales including interregional transfers[1]		37,987	25,674	18,570	14,534	4,409	75,500
Income from operations		4,742	1,913	1,236	2,209	335	8,522
Assets		43,924	24,631	16,201	13,547	5,096	78,768
Thereof	intangible assets	7,167	2,736	4,428	1,499	500	13,594
	property, plant and equipment	13,876	7,019	5,281	4,337	1,764	25,258
	investments accounted for using the equity method	3,153	989	115	1,447	–	4,715
Additions to property, plant and equipment and intangible assets (including acquisitions)		2,455	1,228	958	711	240	4,364
Amortization of intangible assets and depreciation of property, plant and equipment including impairments and reversals of impairments		2,399	1,234	1,011	516	276	4,202

Regions 2016 (million €)

		Europe	Thereof Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customers							
Sales		26,039	7,412	14,042	12,165	5,304	57,550
Share	%	45.3	12.9	24.4	21.1	9.2	100.0
Location of companies							
Sales		27,221	17,540	14,682	11,512	4,135	57,550
Sales including interregional transfers[1]		34,234	23,241	17,060	12,269	4,361	67,924
Income from operations		3,632	1,582	1,113	1,098	432	6,275
Assets		40,086	21,120	17,714	12,869	5,827	76,496
Thereof	intangible assets	7,925	3,249	5,048	1,661	528	15,162
	property, plant and equipment	13,990	6,915	6,055	4,421	1,947	26,413
	investments accounted for using the equity method	3,052	1,120	119	1,476	–	4,647
Additions to property, plant and equipment and intangible assets (including acquisitions)		4,114	2,912	1,424	1,437	283	7,258
Amortization of intangible assets and depreciation of property, plant and equipment including impairments and reversals of impairments		2,526	1,224	1,018	463	244	4,251

[1] The sum of sales including interregional transfers for all the regions can differ from the sum of sales including intersegmental transfers for all the segments, as the segments are viewed globally, and therefore shipments and services between regions within the same segment are not classified as transfers.

In the United States, sales to third parties in 2017 amounted to €13,909 million (2016: €12,831 million) according to location of companies and €13,127 million (2016: €11,985 million) according to location of customers.

In the United States, intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €9,014 million compared with €10,342 million in the previous year.

Notes on statement of income

5 Earnings per share

Earnings per share

		2017	2016
Net income	million €	6,078	4,056
Weighted-average number of outstanding shares	1,000	918,479	918,479
Earnings per share	**€**	**6.62**	**4.42**
Diluted earnings per share	€	6.61	4.41

In accordance with IAS 33, a potential dilutive effect must be considered in the diluted earnings per share for those BASF shares which will be granted in the future as a part of the BASF share program "*plus*." This applies regardless of the fact that the necessary shares are acquired by third parties on the market on behalf of BASF, and the fact that there are no plans for the issuance of new shares. The dilutive effect of the issue of "*plus*" shares amounted to €0.01 in 2017 (2016: €0.01).

6 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 8 from page 196 onward

Cost of sales

Cost of sales includes all production and purchase costs of the company's own products as well as merchandise which has been sold in the period, particularly plant, energy and personnel costs.

Selling expenses

Selling expenses particularly include marketing and advertising costs, freight costs, packaging costs, distribution management costs, commissions, and licensing costs.

General administrative expenses

General and administrative expenses primarily include the costs of the central units, the costs of managing business units and divisions, and costs of general management, the Board of Executive Directors and the Supervisory Board.

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 4 on page 192

7 Other operating income

Million €	2017	2016
Income from the adjustment and reversal of provisions recognized in other operating expenses	74	80
Revenue from miscellaneous revenue-generating activities	178	191
Income from foreign currency and hedging transactions as well as from the measurement of LTI options	110	32
Income from the translation of financial statements in foreign currencies	44	57
Gains on divestitures and the disposal of noncurrent assets	359	667
Reversals of impairment losses on noncurrent assets	189	2
Income from the reversal of valuation allowances for business-related receivables	38	35
Other	924	716
Other operating income	**1,916**	**1,780**

Income from the adjustment and reversal of provisions recognized in other operating expenses was largely related to risks from lawsuits and damage claims, closures and restructuring measures, employee obligations, and various other items as part of the normal course of business. Provisions were reversed or adjusted if the circumstances on the balance sheet date were such that utilization was no longer expected, or expected to a lesser extent.

For more information, see Note 8 from page 196 onward

Revenue from miscellaneous revenue-generating activities primarily included income from rentals, catering operations, cultural events and logistics services.

Income from foreign currency and hedging transactions as well as from the measurement of LTI options pertained to the foreign currency translation of receivables and payables as well as of currency derivatives and other hedging transactions. In 2017, there was also income from the reversal of provisions for the long-term incentive (LTI) program of €68 million. In 2016, by contrast, there was an expense of €267 million arising from the long-term incentive (LTI) program. This was reported under other operating expenses.

Income from the translation of financial statements in foreign currencies contained gains from the translation of companies whose local currency is different from the functional currency.

Gains on divestitures and the disposal of noncurrent assets in the amount of €195 million resulted from the transfer of the leather chemicals business to the Stahl group. Further income of €75 million resulted from the disposal of shares in oil and gas concessions in Argentina. In the previous year, these particularly included gains amounting to €349 million from the sale of the industrial coatings business to AkzoNobel, Amsterdam, Netherlands. Income of €93 million arose from the sale of the global polyolefin catalysts business to W.R. Grace & Co., Columbia, Maryland. Further income of €83 million resulted from the disposal of BASF's OLED intellectual property assets to UDC Ireland Limited, Dublin, Ireland. Income of €72 million pertained to real estate divestitures in several countries.

Reversals of impairment losses on noncurrent assets amounted to €189 million in 2017. These primarily concerned oil and gas fields in Norway.

Income from the reversal of valuation allowances for business-related receivables resulted mainly from the settlement of customer-related receivables for which a valuation allowance had been recorded.

Other income included government grants and government assistance from several countries amounting to €133 million in 2017 and €156 million in 2016. In both years, these were primarily attributable to price compensation from the Argentinian government for gas producers, which was introduced in connection with the New Gas Price Scheme (NGPS) in response to the lower, partly locally regulated gas prices.

Further income resulted from refunds and compensation payments in the amount of €431 million in 2017 and €291 million in 2016. In 2017, these largely included insurance refunds for the damages caused by the fire at the North Harbor in Ludwigshafen, Germany. In the previous year, these were predominantly due to insurance refunds arising from a plant outage at the Ellba C.V. joint operation in Moerdijk, Netherlands. Moreover, income in both years was related to gains from precious metal trading, refunds of consumption taxes and a number of additional items.

8 Other operating expenses

Million €	2017	2016
Restructuring and integration measures	362	482
Environmental protection and safety measures, costs of demolition, removal and project costs that are not subject to mandatory capitalization	375	464
Amortization, depreciation and impairments of noncurrent assets	311	337
Costs from miscellaneous revenue-generating activities	163	179
Expenses from foreign-currency and hedging transactions as well as from the measurement of LTI options	204	530
Losses from the translation of financial statements in foreign currencies	51	17
Losses from divestitures and the disposal of noncurrent assets	106	43
Oil and gas exploration expenses	104	94
Expenses from the addition of valuation allowances for business-related receivables	81	106
Expenses from the consumption of inventories measured at market value and the derecognition of obsolete inventory	220	277
Other	972	604
Other operating expenses	**2,949**	**3,133**

Expenses for **restructuring and integration measures** were primarily related to severance payments amounting to €83 million in 2017 and €190 million in 2016. Further expenses of €38 million concerned the Coatings division in connection with the purchase of the global surface technology provider Chemetall. In the Care Chemicals division, expenses were incurred for restructuring in the USA in the amount of €12 million and €15 million in the Construction Chemicals division for restructuring in Europe. Furthermore, expenses of €10 million concerned the Crop Protection division in relation to the acquisition of significant parts of the seed and non-selective herbicide businesses from Bayer AG, Leverkusen, Germany. Expenses of €27 million in 2017 and €39 million in 2016 arose from the outsourcing of the computer centers. In the previous year, expenses had primarily affected the Petrochemicals division in the amount of €37 million and the Dispersions & Pigments division in the amount of €25 million.

Expenses arose from **environmental protection and safety measures, costs of demolition, removal and project costs that are not subject to mandatory capitalization** according to IFRS. Expenses for demolition, removal and project planning totaled €279 million in 2017 and €375 million in 2016. These especially pertained to the Ludwigshafen site in both years. Further expenses of €54 million in 2017 and €61 million in 2016 arose from the addition to environmental provisions. In both years, these concerned several discontinued sites in North America. In the previous year, expenses were also incurred for landfills in Germany.

Amortization, depreciation and impairments of noncurrent assets arose from impairments in the Oil & Gas segment in the amount of €83 million in 2017. The Performance Products segment posted impairments of €23 million in 2017 and €6 million in 2016. Further impairments of €10 million concerned the Functional Materials & Solutions segment in 2017 and €124 million in 2016. The previous year had recorded €67 million in impairments in the Chemicals segment and €24 million in the Agricultural Solutions segment.

Costs from miscellaneous revenue-generating activities concerned the respective item presented in other operating income.

For more information, see Note 7 on page 195 onward

Expenses from foreign-currency and hedging transactions as well as from the measurement of LTI options were related to foreign currency translations of receivables and payables as well as changes in the fair value of currency derivatives and other hedging transactions. In comparison with the previous year, lower expenses for the hedging of planned sales were posted due to the depreciation of the U.S. dollar relative to the euro as well as lower provisions for the Long-Term-Incentive program.

For more information, see Note 7 on page 195 onward

Losses from divestitures and the disposal of noncurrent assets of €70 million resulted largely from portfolio measures in North America in 2017. Further expenses of €19 million were incurred in connection with the divestiture of the global industrial coatings business to the AkzoNobel Group in December 2016. In the previous year, losses of €17 million had arisen from the reduction in disposal gains from the asset swap with Gazprom as part of the final purchase price allocation.

Expenses from the addition of valuation allowances for business-related receivables decreased by €25 million compared with the previous year. This was predominantly due to lower additions in the region South America, Africa, Middle East.

In both years, expenses under **Other** included expenses from attorneys' fees for litigation cases as well as from REACH, the provision of services, and the implementation of further projects. Expenses of €79 million were also recognized for a product liability case in the Chemicals segment in 2017. Moreover, 2016 contained expenses of €27 million from the fire damage at the Ludwigshafen North Harbor, Germany.

9 Income from companies accounted for using the equity method

Million €	2017	2016
Proportional net income	584	317
Thereof joint ventures	433	157
associated companies	151	160
Other adjustments of income and expense	(13)	(10)
Thereof joint ventures	(12)	(4)
associated companies	(1)	(6)
Income from companies accounted for using the equity method	**571**	**307**

Income from companies accounted for using the equity method increased by a total of €264 million in 2017, primarily due to higher earnings in the Oil & Gas segment, particularly at Wintershall Noordzee B.V., Rijswijk, Netherlands. BASF-YPC Company Ltd., Nanjing, China, also contributed significantly to this increase.

10 Financial result

Million €	2017	2016
Dividends and similar income	22	39
Income from the disposal of shareholdings	5	9
Income from profit transfer agreements	3	6
Income from tax allocation to participating interests	1	–
Income from other shareholdings	**31**	**54**
Expenses from loss transfer agreements	(43)	(18)
Write-downs on/losses from the sale of shareholdings	(17)	(53)
Expenses from other shareholdings	**(60)**	**(71)**
Net income from shareholdings	**(29)**	**(17)**
Interest income from cash and cash equivalents	188	159
Interest and dividend income from securities and loans	38	20
Interest income	**226**	**179**
Interest expenses	**(560)**	**(661)**
Interest result	**(334)**	**(482)**
Net interest income from overfunded pension plans and similar obligations	2	5
Income from the capitalization of borrowing costs	68	92
Miscellaneous financial income	–	–
Other financial income	**70**	**97**
Write-downs on/losses from the disposal of securities and loans	(3)	(10)
Net interest expense from underfunded pension plans and similar obligations	(175)	(183)
Net interest expense from other long-term personnel obligations	(1)	(7)
Unwinding the discount on other noncurrent liabilities	(36)	(47)
Miscellaneous financial expenses	(214)	(231)
Other financial expenses	**(429)**	**(478)**
Other financial result	**(359)**	**(381)**
Financial result	**(722)**	**(880)**

The **interest result** improved by €148 million compared with the previous year from minus €482 million to minus €334 million as a result of higher interest income and lower interest expenses. Higher interest income arose particularly from interest rate and currency swaps to hedge BASF bonds as well as loans granted in connection with the financing of the Nord Stream 2 project. The decrease in interest expenses was largely due to lower liabilities to banks, commercial papers and related hedging transactions.

The **net interest expense from underfunded pension plans and similar obligations** decreased in comparison with the previous year, as a result of the reduced net defined benefit liability as of December 31, 2016. The net interest expenses for the respective business year are based on the discount rate and the defined benefit obligation at the beginning of the year.

In comparison with 2016, **income from the capitalization of borrowing costs** declined due to the start up of major investment projects.

The decline in **other financial expenses** was mostly attributable to lower costs for the hedging of loans in U.S. dollars.

11 Income taxes

In Germany, a uniform corporate income tax rate of 15.0% as well as a solidarity surcharge of 5.5% thereon is levied on all paid out and retained earnings. In addition to corporate income tax, income generated in Germany is subject to a trade tax that varies depending on the municipality in which the company is represented. Due to a constant rate of assessment for Ludwigshafen, Germany, in 2017, the weighted average trade tax rate was 14.1% (2016: 14.1%).

The 30% rate used to calculate deferred taxes for German Group companies remained unchanged in 2017. The profits of foreign Group companies are assessed using the tax rates applicable in their respective countries. These are also generally used to calculate deferred taxes to the extent that tax rate adjustments for the future have not yet been enacted.

Tax expense

Million €	2017	2016
Current tax expense	**1,832**	**1,654**
Corporate income tax, solidarity surcharge and trade taxes (Germany)	464	589
Foreign income tax	1,438	1,184
Taxes for prior years	(70)	(119)
Deferred tax expense (+) / income (–)	**(384)**	**(514)**
From changes in temporary differences	30	(473)
From changes in tax loss carryforwards / unused tax credits	(3)	(43)
From changes in the tax rate	(416)	(6)
From valuation allowances on deferred tax assets	5	8
Income taxes	**1,448**	**1,140**
Other taxes as well as sales and consumption taxes	260	272
Tax expense	**1,708**	**1,412**

The current tax expense for corporate income tax, solidarity surcharge and trade taxes (Germany) decreased due to lower income of the subsidiary companies in Germany.

The changes in temporary differences were largely due to realization and currency effects in connection with provisions for pensions, financial liabilites, and intangible assets.

Changes in valuation allowances on deferred tax assets for tax loss carryforwards resulted in income of €6 million in 2017 and expenses of €7 million in 2016.

Other taxes included real estate taxes and other comparable taxes totaling €107 million in 2017 and €109 million in 2016.

Reconciliation of the income taxes and the effective tax rate

	2017		2016	
	Million €	%	Million €	%
Income before taxes and minority interests	7,800	–	5,395	–
Expected tax based on German corporate income tax (15%)	1,172	15.0	810	15.0
Solidarity surcharge	18	0.2	13	0.2
German trade tax	312	4.0	236	4.4
Foreign tax-rate differential	707	9.1	402	7.5
Tax-exempt income	(20)	(0.3)	(46)	(0.9)
Nondeductible expenses	66	0.8	76	1.4
Income after taxes of companies accounted for using the equity method (Income after taxes)	(86)	(1.1)	(46)	(0.9)
Taxes for prior years	(70)	(0.9)	(119)	(2.2)
Deferred tax liabilities for the future reversal of temporary differences associated with shares in participating interests	(1)	0.0	(2)	0.0
Changes in the tax rate	(416)	(5.3)	(6)	(0.1)
Other	(234)	(2.9)	(178)	(3.3)
Income taxes/effective tax rate	**1,448**	**18.6**	**1,140**	**21.1**

The BASF Group tax rate amounted to 18.6% in 2017 (2016: 21.1%). The lower tax rates resulting from the tax reform in the United States led to deferred tax income in the amount of €379 million.

The foreign tax-rate differential increased due to improvement in earnings in countries with a high tax rate, particularly in Norway, in the Exploration & Production business sector, and in Belgium.

In Other, foreign currency translation differences from the valuation of differences to the tax values as well as additional tax depreciation on oil and gas production facilities in Norway led to tax income.

Taxes for prior years primarily included reversals of long-term tax provisions.

Future reversals of temporary differences for shares in investments that are assumed to have a planning horizon of one year led to deferred tax income of €1 million in 2017 (2016: €2 million).

Deferred taxes

Deferred tax assets and liabilities (million €)

	Deferred tax assets		Deferred tax liabilities	
	2017	2016	2017	2016
Intangible assets	77	90	1,261	1,719
Property, plant and equipment	171	180	2,635	3,336
Financial assets	10	51	49	84
Inventories and accounts receivable	363	348	432	498
Provisions for pensions	2,603	3,028	617	431
Other provisions and liabilities	1,131	1,446	156	170
Tax loss carryforwards	222	279	–	–
Other	42	107	82	95
Netting	(2,501)	(3,016)	(2,501)	(3,016)
Total	**2,118**	**2,513**	**2,731**	**3,317**

Deferred taxes result from temporary differences between tax balances and the measurement of assets and liabilities according to IFRS as well as from tax loss carryforwards and unused tax credits. The remeasurement of all the assets and liabilities associated with acquisitions according to IFRS 3 has resulted in significant deviations between fair values and the values in the tax accounts. This leads primarily to deferred tax liabilities.

Undistributed earnings of subsidiaries resulted in temporary differences of €10,490 million in 2017 (2016: €8,905 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 indefinite periods of time.

Changes in valuation allowances on deferred tax assets amounted to €92 million, compared with €80 million in 2016. Thereof €24 million (2016: €30 million) pertained to tax loss carryforwards.

Tax loss carryforwards

The regional distribution of tax loss carryforwards is as follows:

Tax loss carryforwards (million €)

	Tax loss carryforwards		Deferred tax assets	
	2017	**2016**	**2017**	**2016**
Germany	–	1	–	–
Foreign	1,485	2,383	222	279
Total	**1,485**	**2,384**	**222**	**279**

Tax loss carryforwards exist in all regions, especially in Europe and Asia. German tax losses may be carried forward indefinitely. In foreign countries, tax loss carryforwards are in some cases only possible for a limited period of time. The bulk of the tax loss carryforwards will expire in Europe by 2018 and in Asia by 2022. No deferred tax assets were recognized for tax loss carryforwards of €804 million (2016: €1,478 million).

Tax obligations

Tax obligations primarily include assessed income taxes and other taxes as well as estimated income taxes not yet assessed for the current year. Tax obligations amounted to €1,119 million in 2017 (2016: €1,288 million).

12 Minority interests

Million €	2017	2016
Minority interests in profits	299	229
Minority interests in losses	(25)	(30)
Total	**274**	**199**

Compared with the same period of 2016, higher **minority interests in profits** in 2017 arose particularly due to increased TDI and MDI sales prices and margins at Shanghai BASF Polyurethane Company Ltd., Shanghai, China.

For more information on minority interests in consolidated companies, see Note 21 on page 211

13 Personnel expenses and employees

Personnel expenses

The BASF Group spent €10,610 million on wages and salaries, social security contributions and expenses for pensions and assistance in 2017 (2016: €10,165 million). This represented an increase in personnel expenses of 4.4%. Besides wage and salary increases, this was particularly due to an increase in the average number of employees due to the acquisition of Chemetall. Countering this were the partial reversal of provisions for the Long Term Incentive (LTI) program as well as currency effects.

Personnel expenses (million €)

	2017	2016
Wages and salaries	8,471	8,170
Social security contributions and expenses for pensions and assistance	2,139	1,995
Thereof for pension benefits	705	627
Personnel expenses	**10,610**	**10,165**

Number of employees

As of December 31, 2017, the number of employees rose to 115,490 employees compared with 113,830 employees as of December 31, 2016.

It was distributed over the regions as follows:

Number of employees as of December 31

	2017	2016
Europe	71,653	70,784
Thereof Germany	54,020	53,318
North America	18,295	17,583
Asia Pacific	18,256	18,156
South America, Africa, Middle East	7,286	7,307
BASF Group	**115,490**	**113,830**
Thereof apprentices and trainees	3,103	3,120
temporary staff	2,550	2,334

Employees from joint operations are included in the number of employees at year end relative to BASF's share in the respective company. In total, this included 472 employees in 2017 (2016: 432 employees).

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

Average number of employees

	2017	2016
Europe	71,043	69,873
Thereof Germany	53,390	52,608
North America	17,871	17,308
Asia Pacific	18,132	17,473
South America, Africa, Middle East	7,287	7,321
BASF Group	**114,333**	**111,975**
Thereof apprentices and trainees	2,793	2,838
temporary staff	2,691	2,365

Employees from joint operations are included in the average number of employees relative to BASF's share in the company. This comprised a total of 437 employees (2016: 404 employees).

Notes on balance sheet

14 Intangible assets

The **goodwill** of BASF is allocated to 24 cash-generating units (2016: 22), which are defined either on the basis of business units or on a higher level.

Annual impairment testing took place in the fourth quarter of the year on the basis of the cash-generating units. Recoverable amounts were determined in most cases using the value in use. This was done using plans approved by company management and their respective cash flows, generally for the next five years. Thereafter, a terminal value was calculated using a forward projection from the last detailed planning year as a perpetual annuity. The planning is based on experience, current performance and management's best possible estimates on the future development of individual parameters, such as raw materials prices and profit margins. Oil and gas prices are also among the main input parameters that provide the basis for the forecast of cash flows in the current financial plans. Market assumptions regarding, for example, economic development and market growth are included based on external macroeconomic sources as well as sources specific to the industry.

The required discounting of cash flows for impairment testing is calculated with the weighted average cost of capital rate after tax, which is determined using the Capital Asset Pricing Model. It comprises a risk-free rate, a market risk premium, and a spread for credit risk based on the respective industry-specific peer group. 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 of the units (excluding Exploration & Production in the Oil & Gas segment) were conducted assuming a weighted average cost of capital rate after taxes between 5.69% and 8.2% (2016: between 5.07% and 8.01%). This represents a weighted average cost of capital rate before taxes of between 7.13% and 11.31% (2016: between 6.43% and 10.77%). A valuation model based on a field-related valuation approach has been used, for the unit Exploration & Production in the Oil & Gas segment since the business year 2016, which considers the expected cash flows as well as the tax payments in the individual countries. The period under consideration includes the planned license terms and the production profiles of the included oil and gas fields. Furthermore, instead of using a single weighted average cost of capital rate, the country risk and the specific tax rate is considered in each case: this leads to a more precise calculation of the recoverable amount. Considering these parameters, the capital rate after taxes varied between 7.92% and 12.85% (2016: between 7.5% and 13.76%) and before taxes between 11.32% and 20.07% (2016: between 10.96% and 37.68%).

After determining the recoverable amount of the cash-generating units, it was determined for the large majority of them that reasonable possible deviations from the key assumptions would not lead to the carrying amounts of the units exceeding their respective recoverable amounts. For the goodwill of the Construction Chemicals division and the cash-generating units Pigments in the Dispersions & Pigments division, as well as Surface Treatment in the Coatings division, this is not the case.

In the 2017 business year, the recoverable amount of the Construction Chemicals unit exceeded the carrying amount by around €408 million. The weighted average cost of capital rate after taxes used for impairment testing was 8.2% (2016: 8.01%). The recoverable amount would equal the unit's carrying amount if the weighted average cost of capital rate increased by 0.98 percentage points (2016: by 0.69 percentage points) or if income from operations of the last detailed planning year – as the basis for the terminal value – were lower by 15.97% (2016: by 12.0%).

In 2017, the recoverable amount of Pigments exceeded the carrying amount by €9 million. The weighted average cost of capital rate after taxes used for impairment testing was 6.05% (2016: 5.09%). The recoverable amount would equal the unit's carrying amount if the weighted average cost of capital rate increased by 0.04 percentage points (2016: by 0.51 percentage points) or if income from operations of the last detailed planning year – as the basis for the terminal value – were lower by 0.81% (2016: by 13.78%).

An impairment test for the Surface Treatment unit in the Coatings division was carried out for the first time in the business year 2017 (acquisition in December 2016). In 2017, the recoverable amount of this unit exceeded the carrying amount by €100 million. The weighted average cost of capital rate after taxes used for the impairment testing of this unit was 8.19% (2016: –). The recoverable amount would equal the unit's carrying amount if the weighted average cost of capital rate increased by 0.2 percentage points (2016: –) or if income from operations of the last detailed planning year – as the basis for the terminal value – were 6.1% lower (2016: –).

Goodwill of cash-generating units (million €)

	2017		2016	
Cash-generating unit	**Goodwill**	**Growth rate**[1]	**Goodwill**	**Growth rate**[1]
Crop Protection division	1,929	2.0%	2,093	2.0%
Exploration & Production in the Oil & Gas segment	1,504	–	1,712	–
Catalysts division (excluding battery materials)	1,285	2.0%	1,390	2.0%
Construction Chemicals division	732	2.0%	735	1.5%
Personal care ingredients in the Care Chemicals division	499	2.0%	531	2.0%
Pigments in the Dispersions & Pigments division	389	1.5%	431	2.0%
Surface Treatment in the Coatings division	1,490	2.0%	1,555	–
Other cash-generating units	1,525	0.0–2.0%	1,626	0.0–2.0%
Goodwill as of December 31	**9,353**		**10,073**	

[1] Growth rates used in impairment tests to determine terminal values in accordance with IAS 36

Development of intangible assets 2017 (million €)

	Distribution, supply and similar rights	Product rights, licenses and trademarks	Know-how, patents and production technologies	Internally generated intangible assets	Other rights and values[1]	Goodwill	Total
Cost							
Balance as of January 1, 2017	5,051	1,339	1,958	92	435	10,214	19,089
Changes in scope of consolidation	1	–	–	–	–	–	1
Additions	3	19	20	25	34	–	101
Additions from acquisitions	10	47	56	–	25	97	235
Disposals	(40)	(20)	(53)	(1)	(79)	(28)	(221)
Transfers	14	(178)	(24)	–	13	–	(175)
Currency effects	(317)	(57)	(78)	–	(17)	(806)	(1,275)
Balance as of December 31, 2017	4,722	1,150	1,879	116	411	9,477	17,755
Accumulated amortization							
Balance as of January 1, 2017	2,168	435	882	72	229	141	3,927
Changes in scope of consolidation	–	–	–	–	–	–	–
Additions	298	70	166	10	72	–	616
Disposals	(35)	(17)	(53)	(1)	(72)	–	(178)
Transfers	–	–	–	–	–	–	–
Currency effects	(130)	(9)	(41)	–	(7)	(17)	(204)
Balance as of December 31, 2017	2,301	479	954	81	222	124	4,161
Net carrying amount as of December 31, 2017	**2,421**	**671**	**925**	**35**	**189**	**9,353**	**13,594**

1 Including licenses to such rights and values

Besides goodwill, **intangible assets** also include acquired intangible assets as well as internally generated intangible assets. In addition, they include rights belonging to the Oil & Gas segment, which are amortized in accordance with the unit of production method. As of December 31, 2017, their acquisition costs amounted to €962 million and accumulated amortization to €312 million; amortization in 2017 amounted to €41 million.

Additions from acquisitions amounted to €235 million in 2017. **Goodwill** increased by €79 million as a result of the following significant acquisitions: Rolic AG headquartered in Allschwil, Switzerland; GRUPO Thermotek with headquarters in Monterrey, Mexico; the Henkel group's western European building material business; and ZedX Inc., Bellefonte, Pennsylvania. A further addition to goodwill amounting to €18 million arose primarily from a retroactive purchase price payment for the acquisition of Chemetall from the previous year.

In connection with these transactions, further additions to intangible assets amounted to €138 million. These related predominantly to product rights, licenses and trademarks as well as know-how, patents and production technologies.

Concessions for oil and gas production under the category **product rights, licenses and trademarks** with a net carrying amount of €234 million in 2017 authorize the exploration and production of oil and gas in certain areas. At the end of the term of a concession, the rights are returned.

Disposals of intangible assets amounting to €221 million were largely attributable to the derecognition of software fully written off as well as the sale of the production site for electrolytes in Suzhou, China, the sale of Bleaching Clay and Mineral Adsorbents businesses, and the transfer of the global leather chemicals business to the Stahl group. Related to this, goodwill of €28 million was derecognized.

The **transfers** largely concerned the confirmed oil and gas deposits in the Maria field in Norway to property, plant and equipment. Non-confirmed deposits in connection with acquired concessions are reported as intangible assets under product rights, licenses and trademarks.

In 2017, additions to **accumulated amortization** included impairments of €67 million. This mainly pertained to impairments of non-strategic know-how, patents and production technologies in the Functional Materials & Solutions segment and exploration potential for oil and gas production in Norway. Offsetting this, reversals of impairments of €7 million were included. These related primarily to selling rights in the Functional Materials & Solutions segment.

Development of intangible assets 2016 (million €)

	Distribution, supply and similar rights	Product rights, licenses and trademarks	Know-how, patents and production technologies	Internally generated intangible assets	Other rights and values[1]	Goodwill	Total
Cost							
Balance as of January 1, 2016	4,063	1,318	1,951	91	450	8,500	16,373
Changes in scope of consolidation	–	–	–	–	–	2	2
Additions	–	18	39	10	25	–	92
Additions from acquisitions	1,082	44	108	–	3	1,552	2,789
Disposals	(343)	(39)	(149)	(9)	(60)	(64)	(664)
Transfers	(2)	(16)	(12)	–	13	–	(17)
Currency effects	251	14	21	–	4	224	514
Balance as of December 31, 2016	5,051	1,339	1,958	92	435	10,214	19,089
Accumulated amortization							
Balance as of January 1, 2016	2,160	411	865	67	196	137	3,836
Changes in scope of consolidation							
Additions	260	47	153	14	86	–	560
Disposals	(339)	(24)	(146)	(9)	(55)	–	(573)
Transfers	(1)	–	–	–	–	–	(1)
Currency effects	88	1	10	–	2	4	105
Balance as of December 31, 2016	2,168	435	882	72	229	141	3,927
Net carrying amount as of December 31, 2016	**2,883**	**904**	**1,076**	**20**	**206**	**10,073**	**15,162**

[1] Including licenses to such rights and values

Besides goodwill, **intangible assets** also include acquired intangible assets as well as internally generated intangible assets. In addition, they include rights belonging to the Oil & Gas segment, which are amortized in accordance with the unit of production method. As of December 31, 2016, their acquisition costs amounted to €1,029 million and accumulated amortization to €328 million; amortization in 2016 amounted to €19 million.

Additions from acquisitions amounted to €2,789 million in 2016. Significant acquisitions comprising the purchase of the global surface treatment provider Chemetall from Albemarle Corp., Charlotte, North Carolina, and the automotive refinishing business from Guangdong Yinfan Chemistry, Jiangmen, China, led to an increase of goodwill in the amount of €1,552 million. In connection with these transactions, additions to intangible assets amounted to €1,237 million. These were primarily related to customer relationships and production technologies.

Disposals of intangible assets in the amount of €21 million were largely attributable to the sale of the 25% share in the Byrding field to Statoil and the divestiture of the global photoinitiator business as well as the global polyolefin catalysts business. Related to this, goodwill of €64 million was derecognized.

Concessions for oil and gas production under the category **product rights, licenses and trademarks** with a net carrying amount of €466 million in 2016 authorize the exploration and production of oil and gas in certain areas. At the end of the term of a concession, the rights are returned.

In 2016, additions to **accumulated amortization** included impairments of €61 million. This primarily affected impairments relating to production technologies and distribution rights in the Functional Materials & Solutions segment in the amount of €51 million.

15 Property, plant and equipment

Machinery and technical equipment contain oil and gas deposits, including related wells, production facilities and further infrastructure, which are depreciated according to the unit of production method.

Development of property, plant and equipment 2017 (million €)

	Land, land rights and buildings	Machinery and technical equipment	Thereof depreciation according to the unit of production method	Miscellaneous equipment and fixtures	Construction in progress	Total
Cost						
Balance as of January 1, 2017	11,257	49,893	7,180	4,437	5,989	71,576
Changes in scope of consolidation	–	14	–	–	1	15
Additions	171	1,292	450	272	2,285	4,020
Additions from acquisitions	–	7	–	1	–	8
Disposals	(131)	(825)	(17)	(280)	(36)	(1,272)
Transfers	367	2,635	890	128	(2,945)	185
Currency effects	(495)	(2,458)	(563)	(171)	(495)	(3,619)
Balance as of December 31, 2017	11,169	50,558	7,940	4,387	4,799	70,913
Accumulated depreciation						
Balance as of January 1, 2017	5,969	35,655	3,711	3,308	231	45,163
Changes in scope of consolidation	–	14	–	–	–	14
Additions	385	2,878	931	335	(12)	3,586
Disposals	(95)	(761)	(3)	(266)	(32)	(1,154)
Transfers	–	(50)	–	(1)	53	2
Currency effects	(194)	(1,626)	(310)	(112)	(24)	(1,956)
Balance as of December 31, 2017	6,065	36,110	4,329	3,264	216	45,655
Net carrying amount as of December 31, 2017	**5,104**	**14,448**	**3,611**	**1,123**	**4,583**	**25,258**

Additions to property, plant and equipment arising from investment projects amounted to €4,020 million in 2017. Material investments included the acetylene plant currently under construction as well as plants for the production of catalysts in Ludwigshafen, Germany. Additions also comprised the construction of an aroma ingredients complex in Kuantan, Malaysia, and the modification of production plants for plasticizers in Pasadena, Texas, which have already partly started up. Material investments were also made for the construction of oil and gas facilities and wells in Europe and South America. Furthermore, investments were particularly made at the sites in Ludwigshafen, Germany; Antwerp, Belgium; Shanghai, China; Freeport, Texas; Geismar, Louisiana; and Port Arthur, Texas.

Government grants for the funding of investment measures reduced asset additions by €9 million.

Acquisitions led to an increase in property, plant and equipment in the amount of €8 million primarily from the acquisition of GRUPO Thermotek in Monterrey, Mexico.

In 2017, impairments of €262 million were included in **accumulated depreciation**. These pertained largely to machinery and technical equipment and resulted primarily from the full impairment of a production plant in the Chemicals segment due to overcapacities. The recoverable amount equaled value in use and the weighted average cost of capital rate before taxes was 10.27%.

Depreciation also included impairments in the Oil & Gas segment, which were overcompensated by reversals in the same segment. These primarily concerned construction in progress. In total, reversals of impairments in additions to accumulated depreciation amounted to €182 million.

Disposals of property, plant and equipment were largely attributable to the sale of the Bleaching Clay and Mineral Adsorbents businesses; the production site for electrolytes in Suzhou, China; the inorganic specialties business; and the leather chemicals business.

For more information on divestitures, see Note 2.4 from page 187 onward

The **transfers** largely concerned the confirmed oil and gas deposits in the Maria field in Norway from intangible assets to machinery and technical equipment.

Currency effects reduced property, plant and equipment by €1,663 million and arose mainly from the depreciation of the U.S. dollar relative to the euro.

Development of property, plant and equipment 2016 (million €)

	Land, land rights and buildings	Machinery and technical equipment	Thereof depreciation according to the unit of production method	Miscellaneous equipment and fixtures	Construction in progress	Total
Cost						
Balance as of January 1, 2016	10,711	45,805	5,972	4,216	6,502	67,234
Changes in scope of consolidation	(1)	–	–	2	–	1
Additions	183	1,300	309	203	2,536	4,222
Additions from acquisitions	77	54	–	18	6	155
Disposals	(194)	(760)	(30)	(213)	(88)	(1,255)
Transfers	322	2,796	716	165	(3,145)	138
Currency effects	159	698	213	46	178	1,081
Balance as of December 31, 2016	11,257	49,893	7,180	4,437	5,989	71,576
Accumulated depreciation						
Balance as of January 1, 2016	5,637	32,965	2,827	3,152	220	41,974
Changes in scope of consolidation	(1)	–	–	–	–	(1)
Additions	376	2,930	939	307	78	3,691
Disposals	(100)	(658)	(28)	(182)	(73)	(1,013)
Transfers	(1)	1	–	1	–	1
Currency effects	58	417	(27)	30	6	511
Balance as of December 31, 2016	5,969	35,655	3,711	3,308	231	45,163
Net carrying amount as of December 31, 2016	**5,288**	**14,238**	**3,469**	**1,129**	**5,758**	**26,413**

Additions to property, plant and equipment arising from investment projects amounted to €4,222 million in 2016. Material investments were primarily related to the construction of an integrated aroma ingredients complex in Kuantan, Malaysia, the TDI complex in Ludwigshafen, Germany, and the expansion of the dicamba plant in Beaumont, Texas, which were partially started up in 2016. Further material asset additions included the construction of an ammonia plant in Freeport, Texas, and oil and gas production facilities and wells in Europe and South America.

In addition, investments for expansion purposes were particularly made at the sites in Ludwigshafen, Germany; Geismar, Louisiana; Port Arthur, Texas; and Antwerp, Belgium.

Government grants of €1 million were deducted from asset additions.

Due to acquisitions, property, plant and equipment rose by €155 million primarily from the acquisition of the global surface treatment provider Chemetall from Albemarle Corp., Charlotte, North Carolina.

In 2016, impairments of €254 million were included in **accumulated depreciation**. These pertained largely to impairments of €133 million on machinery and technical equipment as well as buildings due to the new strategic direction of individual businesses in the Chemicals and Functional Materials & Solutions segments. The recoverable amount of these assets equals their value in use amounting to €72 million. The weighted average cost of capital rate before taxes applied ranged between 9.4% and 12.8%.

In 2016, additions to accumulated depreciation contained reversals of impairments of €2 million.

Disposals of property, plant and equipment were largely attributable to the sale of assets of the global polyolefin catalysts business to W.R. Grace & Co., Columbia, Maryland; the sale of the worldwide photoinitiator business to IGM Resins B.V., Waalwijk, Netherlands; the sale of the 25% share in the Byrding field to Statoil; and the sale of industrial coatings business to the AkzoNobel Group.

Currency effects arose particularly from the appreciation of the U.S. dollar as well as the Brazilian real relative to the euro.

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

Investments accounted for using the equity method (million €)

	2017	2016
Balance as of January 1	4,647	4,436
Changes in scope of consolidation	(50)	–
Additions	223	152
Disposals	(82)	(1)
Transfers	120	(27)
Currency effects	(143)	87
Net carrying amount as of December 31	**4,715**	**4,647**

Other financial assets (million €)

	December 31, 2017	December 31, 2016
Other shareholdings	482	468
Long-term securities	124	137
Other financial assets	**606**	**605**

Changes in the scope of consolidation arose particularly from the first-time consolidation of a company.

Additions arose from the completed combination of the global leather chemicals business with the Stahl group on September 29, 2017. In connection with this, BASF received a 16.6% share in Stahl Lux 2 S.A., Luxembourg. Additions also included capital increases amounting to €34 million.

A significant component of the **disposals** totaling €82 million was the capital reduction at W & G Infrastruktur Finanzierungs-GmbH, Kassel, Germany.

Besides the net income of investments accounted for using the equity method, transfers include dividend distributions and other comprehensive income of the companies.

For a detailed overview of income from companies accounted for using the equity method, see Note 9 on page 197

17 Inventories

Million €	December 31, 2017	December 31, 2016
Raw materials and factory supplies	3,255	3,107
Work-in-process, finished goods and merchandise	6,979	6,808
Advance payments and services-in-process	69	90
Inventories	**10,303**	**10,005**

Work-in-process, finished goods and merchandise are combined into one item due to the production conditions in the chemical industry. Services-in-process primarily relate to services not invoiced as of the balance sheet date.

Cost of sales included inventories recognized as an expense amounting to €29,941 million in 2017, and €26,048 million in 2016.

A reversal of a write-down on inventory was recognized in the amount of €18 million in 2017 and a write-down in the amount of €43 million in 2016.

Of total **inventories**, €863 million was measured at net realizable value in 2017 and €836 million in 2016.

18 Receivables and miscellaneous assets

Other receivables and miscellaneous assets (million €)

	December 31, 2017		December 31, 2016	
	Noncurrent	Current	Noncurrent	Current
Loans and interest receivables	782	245	568	250
Derivatives with positive fair values	91	321	176	342
Receivables from finance leases	25	4	29	5
Insurance compensation receivables	0	41	6	14
Miscellaneous	111	329	126	406
Other receivables and assets which qualify as financial instruments	**1,009**	**940**	**905**	**1,017**
Prepaid expenses	54	249	62	258
Defined benefit assets	70	–	66	–
Tax refund claims	125	787	114	747
Employee receivables	–	8	–	10
Precious metal trading items	–	746	–	690
Miscellaneous	74	375	63	356
Other receivables and assets which do not qualify as financial instruments	**323**	**2,165**	**305**	**2,061**
Other receivables and miscellaneous assets	**1,332**	**3,105**	**1,210**	**3,078**

The increase in noncurrent **loans and interest receivables** was predominantly due to the loan in the amount of €325 million granted by Wintershall Nederland Transport and Trading B.V., Rijswijk, Netherlands, to Nord Stream 2 AG, and the loan in the amount of €140 million granted by W & G Transport Holding GmbH, Kassel, Germany, to W & G Infrastruktur Finanzierungs-GmbH, Kassel, Germany, in 2017. In 2017, the loans granted by the fully consolidated WIGA Transport Beteiligungs-GmbH & Co. KG, Kassel, Germany, to NEL Gastransport GmbH, Kassel, Germany, and GASCADE Gastransport GmbH, Kassel, Germany were transferred to the W & G Infrastruktur Finanzierungs-GmbH, which is accounted for using the equity method, and had an offsetting effect of €259 million. In addition to the loans granted already mentioned, there were particularly loans and interest receivables from BASF Belgium Coordination Center Comm. V. Antwerp, Belgium, to finance the business expansion of Asian companies, and receivables in favor of BASF SE from the BASF Pensionskasse VVaG.

The reduction of noncurrent **derivatives with positive fair values** primarily affected the market valuation of combined interest rate and currency swaps. The change in current derivatives with positive fair market values was largely attributable to the lower fair values of precious metal and foreign currency derivatives.

Prepaid expenses in 2017 included prepayments of €62 million related to operating activities compared with €64 million in 2016, as well as €50 million in prepayments for insurance in 2017 compared with €54 million in 2016. Prepayments for license costs decreased from €48 million in 2016 to €42 million in 2017.

The increase in current **tax refund claims** can largely be traced back to the rise in open income tax receivables.

Precious metal trading items primarily comprise physical items and precious metal accounts as well as long positions in precious metals, which are largely hedged through sales or derivatives.

Valuation allowances for receivables 2017 (million €)

	Balance as of January 1, 2017	Additions recognized in income	Reversals recognized in income	Additions not recognized in income	Reversals not recognized in income	Balance as of December 31, 2017
Accounts receivable, trade	370	80	38	12	75	349
Other receivables	118	10	6	–	10	112
Total	**488**	**90**	**44**	**12**	**85**	**461**

Valuation allowances for receivables 2016 (million €)

	Balance as of January 1, 2016	Additions recognized in income	Reversals recognized in income	Additions not recognized in income	Reversals not recognized in income	Balance as of December 31, 2016
Accounts receivable, trade	298	106	35	40	39	370
Other receivables	75	27	1	24	7	118
Total	**373**	**133**	**36**	**64**	**46**	**488**

Changes recognized in income contained individual valuation allowances, group-wise individual valuation allowances and valuation allowances due to transfer risks.

Changes not recognized in income were primarily related to changes in the scope of consolidation, translation adjustments and derecognition of uncollectible receivables.

In the current economic environment, BASF has not observed any material changes in the credit quality of its receivables. In 2017, individual valuation allowances of €61 million were recognized for **accounts receivable, trade,** and €15 million were reversed. In 2016, individual valuation allowances of €71 million were recognized for trade accounts receivable and valuation allowances of €22 million were reversed.

At BASF, a comprehensive, global credit insurance program covers trade accounts receivable. As part of a global excess of loss policy, future bad debts are insured for essentially all BASF Group companies excluding joint ventures. No compensation claims were incurred in either 2016 or 2017.

In 2017, individual valuation allowances of €10 million were recognized for **other receivables** and €6 million were reversed. In 2016, individual valuation allowances of €27 million were recognized for other receivables and €1 million was reversed.

Aging analysis of accounts receivable, trade (million €)

	December 31, 2017		December 31, 2016	
	Gross value	Valuation allowances	Gross value	Valuation allowances
Not yet due	10,449	35	10,295	26
Past due less than 30 days	527	1	381	2
Past due between 30 and 89 days	115	6	159	8
Past due more than 90 days	448	307	487	334
Total	**11,539**	**349**	**11,322**	**370**

As of December 31, 2017, there were no material other receivables classified as financial instruments that were overdue and for which no valuation allowance was made.

19 Capital, reserves and retained earnings

Authorized capital

At the Annual Shareholders' Meeting on May 2, 2014, shareholders authorized the Board of Executive Directors, with the approval of the Supervisory Board, to increase the subscribed capital by issuing new registered shares up to a total of €500 million against cash or contributions in kind through May 1, 2019. The Board of Executive Directors is empowered, following the approval of the Supervisory Board, to decide on the exclusion of shareholders' subscription rights for these new shares in certain predefined cases covered by the enabling resolution. Until now, this option has not been exercised and no new shares have been issued.

BASF SE has only issued fully paid-up registered shares with no par value. There are no preferences or other restrictions. BASF SE does not hold any treasury shares.

Conditional capital

At the Annual Shareholders' Meeting of May 12, 2017, shareholders authorized the Board of Executive Directors, with the approval of the Supervisory Board, to issue, on a one-off basis or in portions on more than one occasion, bearer or registered convertible bonds and/or bonds with warrants, or combinations of these instruments, with or without maturity limitations up to a nominal value of €10 billion through May 11, 2022. The calculated portion of the share capital represented by the BASF shares to be issued in connection with the debt instruments issued under this authorization may not exceed 10% of the share capital.

To this effect, the share capital was increased conditionally by up to €117,565,184 by issuing a maximum of 91,847,800 new registered BASF shares. The conditional capital increase will only be carried out to the extent to which holders of convertible bonds, or warrants attached to bonds with warrants issued, exercise their conversion or option rights. Until now, this authorization has not been exercised.

Authorization of share buybacks

At the Annual Shareholders' Meeting of May 12, 2017, shareholders authorized the Board of Executive Directors to buy back shares up until May 11, 2022, in accordance with section 71(1) no. 8 of the German Stock Corporation Act. The buyback cannot 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 request to the shareholders to submit sales offers. Until now, this authorization has not been exercised.

Reserves and retained earnings

Capital surplus includes 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.

Million €	Dec. 31, 2017	Dec. 31, 2016
Legal reserves	678	625
Other retained earnings	34.148	30.890
Retained earnings	**34.826**	**31.515**

Transfers from **other retained earnings** increased **legal reserves** by €53 million in 2017 (2016: €31 million).

The acquisition of shares in companies which BASF already controls or which are included as a joint arrangement in the Consolidated Financial Statements is treated as a transaction between shareholders, as long as this does not lead to a change in the consolidation method. There were no transactions of this type in 2017, as in the previous year.

Payment of dividends

In accordance with the resolution of the Annual Shareholders' Meeting on May 12, 2017, BASF SE paid a dividend of €3.00 per share from the retained profit of the 2016 fiscal year. With 918,478,694 qualifying shares, this represented total dividends of €2,755,436,082.00. The remaining €53,131,213.65 in retained profits was recorded under retained earnings.

20 Other comprehensive income

Translation adjustments

Especially the increase in the value of the euro, relative to the U.S. dollar, in 2017 led to a decrease of €2.081 million in the translation adjustment to minus €605 million.

Cash flow hedges

Hedging future cash flows at Nord Stream AG, Zug, Switzerland, a company accounted for using the equity method, resulted in a change of minus €17 million in 2017 and of minus €7 million in 2016.

For more information on cash flow hedge accounting, see Note 27.4 from page 227 onward

Remeasurement of defined benefit plans

In 2017, other comprehensive income increased by €1,073 million before taxes due to the positive development of plan assets. In 2016, the change amounting to minus €1,842 million was particularly due to the increase in defined benefit obligations, which resulted from the significant decrease in the discount rate over the course of the year.

For more information on the remeasurement of defined benefit plans, see Note 22 from page 211 onward

21 Minority interests

		December 31, 2017		December 31, 2016	
		Equity interest		Equity interest	
Group company	Partner	%	Million €	%	Million €
WIGA Transport Beteiligungs-GmbH & Co. KG, W & G Transport Holding GmbH[1], OPAL Gastransport GmbH & Co. KG[1]	Gazprom Germania GmbH, Berlin, Germany	49.98[1]	71	49.98[1]	(43)
BASF India Ltd., Mumbai, India	Free float	26.67	39	26.67	36
BASF PETRONAS Chemicals Sdn. Bhd., Shah Alam, Malaysia	PETRONAS Chemicals Group Berhad, Kuala Lumpur, Malaysia	40.00	198	40.00	235
BASF TOTAL Petrochemicals LLC, Port Arthur, Texas	Total Petrochemicals & Refining USA, Inc., Houston, Texas	40.00	243	40.00	260
Shanghai BASF Polyurethane Company Ltd., Shanghai, China	Shanghai Huayi (Group) Company, Shanghai, China, and Sinopec Shanghai Gaoqiao Petrochemical Corporation, Shanghai, China	30.00	199	30.00	95
BASF TODA Battery Materials, LLC, Tokyo, Japan	TODA KOGYO CORP., Hiroshima, Japan	34.00	26	34.00	34
BASF Shanghai Coatings Co. Ltd., Shanghai, China	Shanghai Huayi Fine Chemical Co., Ltd, Shanghai, China	40.00	57	40.00	56
Other			86		88
Total			**919**		**761**

[1] Equity interest in W & G Transportation Holding GmbH and OPAL Gastransport GmbH & Co. KG: 50.03 %; voting rights and portion of earnings: 49.98 %

22 Provisions for pensions and similar obligations

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 been almost exclusively offered defined contribution plans for future years of service in recent years.

The Group Pension Committee monitors the risks of all pension plans of the Group. In this context, it issues guidelines regarding the governance and risk management of pension plans, particularly with regard to the funding of the pension plans and the portfolio structure of the existing plan assets. The organization, responsibilities, strategy, implementation and reporting requirements are documented for the units involved.

Economic and legal environment of the plans

In some countries – especially in Germany, the United Kingdom, Switzerland and Belgium – 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 may differ from those in IAS 19. Furthermore, there are restrictions in qualitative and quantitative terms relating to parts of the plan assets for the investment in certain asset categories. This could result in fluctuating employer contributions, financing requirements and the assumption of obligations in favor of the pension funds to comply with the 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 the discount rate on the amount of the defined benefit obligation. In previous years, measures taken to close plans with defined benefits for future service, especially benefits based on final pay promises and the assumption of healthcare costs for former employees, however, led to a reduction in risk with regard to future benefit levels.

The strategy of the BASF Group with regard to financing pension commitments is aligned with 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 service the minimum guarantee, this must be provided by the employer under the subsidiary liability. To the extent that recourse to the employer is unlikely based on the structure and provision of the pension benefits as well as the asset situation of the pension fund, these plans are treated as defined contribution plans.

Description of the defined benefit plans

The typical plan structure in the individual countries is described in the following. 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 funded plan, which is financed by contributions of employees and the employer 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 the 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 benefits plan at BASF was closed for newly hired employees at German BASF companies and replaced by a defined contribution plan. At BASF SE, occupational pension promises that exceed the basic level of benefits are financed under a contractual trust arrangement by BASF Pensionstreuhand e.V.; at German Group companies, these benefits are almost exclusively financed via pension provisions. The benefits are largely based on cash balance plans. Furthermore, employees are given the option of participating in various deferred compensation schemes.

United States

Employees are granted benefits based on defined contribution plans.

Since 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 have been 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 would be based on the results of an actuarial valuation. Furthermore, there are unfunded pension plans that are not subject to ERISA.

Additional similar obligations arise from plans which assume the healthcare costs and life insurance premiums of retired employees and their dependents. Such plans are closed to new entrants since 2007. In addition, the amount of the benefits for such plans is 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 assets. The pension plan is accounted for as a defined benefit plan, as the obligatory minimum pension guaranteed by law according to the Swiss law “Berufliche Vorsorge (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 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 assets.

United Kingdom

Employees are granted benefits based on a defined contribution plan.

The BASF Group maintains defined benefit plans in the United Kingdom, which were closed for further increases in benefit from 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

In the case of subsidiaries in other countries, defined benefits are covered in some cases by pension provisions, but mainly by external insurance companies or pension funds.

Actuarial assumptions

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

Assumptions used to determine the defined benefit obligation as of December 31

	Germany		United States		Switzerland		United Kingdom	
	2017	2016	2017	2016	2017	2016	2017	2016
Discount rate	1.90	1.80	3.60	4.00	0.50	0.60	2.60	2.80
Projected pension increase	1.50	1.50	–	–	–	–	3.10	3.10

Assumptions used to determine expenses for pension benefits in the respective business year

	Germany		United States		Switzerland		United Kingdom	
	2017	2016	2017	2016	2017	2016	2017	2016
Discount rate	1.80	2.50	4.00	4.20	0.60	0.80	2.80	4.00
Projected pension increase	1.50	1.50	–	–	–	–	3.10	2.90

The assumptions used to ascertain the defined benefit obligation as of December 31 are used in the following year to determine the expenses for pension plans.

A Group-wide, uniform procedure is used to determine the discount rates used for the valuation of material pension obligations of the BASF Group. Accordingly, the discount rates were derived from the yields on corporate bonds in the respective currency zones with an issuing volume of more than 100 million units of the respective currency with a minimum rating of AA– up to AA+ from at least one of the three rating agencies: Fitch, Moody's, or Standard & Poor's.

The valuation of the defined benefit obligation is generally made using the most recent actuarial mortality tables as of December 31 of the respective business year, which in Germany and the United States are derived from the BASF Group population and were last updated for the pension obligations in Germany in 2015 and for the pension obligations in the United States in 2014.

Actuarial mortality tables (significant countries) as of Dec. 31, 2017

Germany	Heubeck Richttafeln 2005G (modified)
United States	RP-2014 (modified) with MP-2014 generational projection
Switzerland	BVG 2015 generational
United Kingdom	S1PxA (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	
	2017	2016	2017	2016
Discount rate	(1,930)	(1,990)	2,200	2,270
Projected pension increase	1,240	1,175	(1,130)	(1,110)

An alternative valuation of the defined benefit obligation was conducted in order to determine how changes in the underlying assumptions would 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 €)

	2017	2016
Expenses for defined benefit plans	402	346
Expenses for defined contribution plans	303	281
Expenses for pension benefits (recognized in income from operations)	**705**	**627**
Net interest expenses from underfunded pension plans and similar obligations	175	183
Net interest income from overfunded pension plans	(2)	(5)
Interest cost for the asset ceiling	–	–
Expenses for pension benefits (recognized in the financial result)	**173**	**178**

The net interest on the defined benefit liability is recognized in the financial result. This results from the difference between the interest cost of the defined benefit obligation and the standardized return on plan assets as well as the interest cost for the asset ceiling. The expected contribution payments and benefits paid over the course of the business year are considered in the determination of net interest.

Net interest expense of the respective business year is based on the discount rate and the defined benefit obligation at the beginning of the year.

Development of defined benefit obligation (million €)

	2017	2016
Defined benefit obligation as of January 1	27,603	24,861
Current service cost	400	360
Interest cost	568	671
Benefits paid	(1,048)	(1,024)
Participants' contributions	48	49
Actuarial gains/losses		
for adjustments relating to financial assumptions	1	2,571
adjustments relating to demographic assumptions	(2)	(20)
experience adjustments	(5)	66
Effects from acquisitions and divestitures	8	148
Past service cost	2	(14)
Plan settlements	–	–
Other changes	124	(2)
Currency effects	(828)	(63)
Defined benefit obligation as of December 31	**26,871**	**27,603**

As of December 31, 2017, the weighted average duration of the defined benefit obligation amounted to 15.5 years (previous year: 15.7 years).

Development of plan assets (million €)

	2017	2016
Plan assets as of January 1	19,460	18,681
Standardized return on plan assets	393	492
Deviation between actual and standardized return on plan assets	1,067	775
Employer contributions	1,102	207
Participants' contributions	48	49
Benefits paid	(919)	(627)
Effects from acquisitions and divestitures	(2)	64
Past service cost	–	–
Plan settlements	–	–
Other changes	106	(20)
Currency effects	(607)	(161)
Plan assets as of December 31	**20,648**	**19,460**

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 expected to be made during the year.

The expected contribution payments for 2018 amount to approximately €200 million.

Special contributions were made in 2017 to improve the funding levels of the plans. These primarily related to BASF Pensionstreuhand e.V. (€500 million), BASF Pensionskasse VVaG (€317 million) and the U.S. plans ($143 million).

Development of the net defined benefit liability (million €)

	2017	2016
Net defined benefit liability as of January 1	(8,143)	(6,180)
Current service cost	(400)	(360)
Interest cost	(568)	(671)
Standardized return on plan assets	393	492
Deviation between actual and standardized return on plan assets	1,067	775
Actuarial gains/losses of the defined benefit obligation	6	(2,617)
Changes in asset ceiling recognized directly in equity	–	–
Benefits paid by unfunded plans	129	397
Employer contributions	1,102	207
Effects from acquisitions and divestitures	(10)	(84)
Past service cost	(2)	14
Other changes	(18)	(18)
Currency effects	221	(98)
Net defined benefit liability as of December 31	**(6,223)**	**(8,143)**
Thereof defined benefit assets	70	66
provisions for pensions and similar obligations	(6,293)	(8,209)

Regional allocation of defined benefit plans as of December 31 (million €)

	Pension obligations		Plan assets		Net defined benefit liability	
	2017	2016	2017	2016	2017	2016
Germany	18,104	18,242	13,576	12,282	(4,528)	(5,960)
United States	4,053	4,524	2,687	2,806	(1,366)	(1,718)
Switzerland	2,070	2,272	1,889	1,974	(181)	(298)
United Kingdom	1,884	1,909	1,880	1,898	(4)	(11)
Other	760	656	616	500	(144)	(156)
Total	**26,871**	**27,603**	**20,648**	**19,460**	**(6,223)**	**(8,143)**

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 oriented towards 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 the U.K. and U.S. plans.

Structure of plan assets (%)

	2017	2016
Equities	29	28
Debt instruments	52	53
Thereof for government debtors	16	16
for other debtors	36	37
Real estate	3	4
Alternative investments	15	15
Cash and cash equivalents	1	–
Total	**100**	**100**

The asset class **debt instruments** comprises promissory notes and debentures (Pfandbriefe) in addition to corporate and government bonds. Government bonds primarily concern bonds from those countries enjoying the highest credit ratings, such as the United States, United Kingdom, Germany and Switzerland. Corporate bonds mainly comprise investment-grade bonds, whereby particular high-yield bonds are also held to a limited extent. In connection with the ongoing monitoring of default risk based on a given risk budget and on the continuous observation of the development of the creditworthiness of issuers, an adjustment of plan asset allocation to a revised market assessment may be made, if necessary. **Alternative investments** largely comprise investments in private 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), which were acquired through private placements with a market value in the amount of €575 million as of December 31, 2017, and €853 million as of December 31, 2016. For such securities, especially those held by domestic pension plans, there is no active market. The capital market compensates for this lack of fungibility with yield premiums depending on the maturity. With only a few exceptions, there is no active market for plan assets in **real estate** and **alternative investments**.

Plan assets contained securities issued by BASF Group companies with a market value of €15 million in 2017 and €16 million in 2016. The market value of the properties of legally independent pension funds rented to BASF Group companies amounted to €111 million on December 31, 2017, and €117 million on December 31, 2016.

Since 2010 there has been an agreement between BASF SE and BASF Pensionskasse about the granting of profit participation capital with a nominal value of €80 million, which is used to strengthen the financing of the BASF Pensionskasse. In 2017, a number of special endowments were provided to improve the funding levels of the plans. No material transactions beyond this took place between the legally independent pension funds and BASF Group companies in 2017.

The funding of the plans was as follows:

Current funding situation of the pension plans as of December 31 (million €)

	2017		2016	
	Defined benefit obligation	Plan assets	Defined benefit obligation	Plan assets
Unfunded pension plans	2,814	–	2,869	–
Funded pension plans	24,057	20,648	24,734	19,460
Total	**26,871**	**20,648**	**27,603**	**19,460**

Defined contribution plans and government pensions

The contributions to defined-contribution plans contained in income from operations amounted to €303 million in 2017 and €281 million in 2016.

Contributions to government pension plans were €592 million in 2017 and €590 million in 2016.

23 Other provisions

Million €	December 31, 2017	Thereof current	December 31, 2016	Thereof current
Restoration obligations	1,296	17	1,297	29
Environmental protection and remediation costs	600	112	588	116
Employee obligations	2,173	1,553	1,933	1,217
Obligations from sales and purchase contracts	1,080	1,070	928	919
Restructuring measures	143	119	208	161
Litigation, damage claims, warranties and similar commitments	103	48	109	37
Other	1,312	310	1,406	323
Total	**6,707**	**3,229**	**6,469**	**2,802**

Restoration obligations primarily relate to the estimated costs for the filling of wells and the removal of production equipment after the end of production in the Oil & Gas segment.

Provisions for **environmental protection and remediation costs** cover expected costs for rehabilitating contaminated sites, recultivating landfills, removal of environmental contamination at existing production or storage sites and similar measures.

Provisions for **employee obligations** primarily include obligations for the granting of long-service bonuses and anniversary payments, variable compensation including associated social security contributions, as well as provisions for early retirement programs for employees nearing retirement. The increase was primarily attributable to higher accruals for variable compensation components.

For more information on provisions for the long-term incentive program, see Note 30 from page 231 onward

Obligations from sales and purchase contracts largely include obligations arising from rebates granted and other price discounts in the Agricultural Solutions segment, warranties and product liability, sales commissions, expected losses on contracts. The increase in provisions resulted from higher accruals for rebate programs and for product liabilities.

The **restructuring measures** provisions include severance payments to departing employees as well as expected costs for site closures, including the costs for demolition and similar measures.

Provisions for **litigation, damage claims, warranties and similar commitments** contain anticipated expenses from lawsuits in which BASF is the defendant party, as well as obligations under damage claims against BASF and fines.

Other largely includes noncurrent tax provisions.

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

Development of other provisions in 2017 (million €)

	Jan. 1, 2017	Additions	Unwinding of the discount	Utilization	Reversals	Other changes	Dec. 31, 2017
Restoration obligations	1,297	108	29	(30)	(21)	(87)	1,296
Environmental protection and remediation costs	588	111	3	(60)	(5)	(37)	600
Employee obligations	1,933	1,720	2	(1,235)	(154)	(93)	2,173
Obligations from sales and purchase contracts	928	1,027	–	(681)	(66)	(128)	1,080
Restructuring measures	208	35	–	(65)	(22)	(13)	143
Litigation, damage claims, warranties and similar commitments	109	54	–	(24)	(24)	(12)	103
Other	1,406	264	1	(225)	(85)	(49)	1,312
Total	**6,469**	**3,319**	**35**	**(2,320)**	**(377)**	**(419)**	**6,707**

24 Liabilities

Financial indebtedness (million €)

		Currency	Nominal value (million, currency of issue)	Effective interest rate	Carrying amounts based on effective interest method: December 31, 2017	Carrying amounts based on effective interest method: December 31, 2016
BASF SE						
Commercial paper		USD			–	1,033
variable	Bond 2014/2017	EUR	300	variable	–	300
5.875%	Bond 2009/2017	GBP	400	6.04%	–	467
4.625%	Bond 2009/2017	EUR	300	4.69%	–	300
1.375%	Bond 2014/2017	GBP	250	1.46%	–	292
variable	Bond 2013/2018	EUR	300	variable	300	300
1.5%	Bond 2012/2018	EUR	1,000	1.51%	999	999
1.375%	Bond 2014/2019	EUR	750	1.44%	750	749
variable	Bond 2017/2019	EUR	1,250	variable	1,261	–
variable	Bond 2013/2020	EUR	300	variable	300	300
1.875%	Bond 2013/2021	EUR	1,000	1.47%	1,007	1,016
2.5%	Bond 2017/2022	USD	500	2.65%	414	–
2%	Bond 2012/2022	EUR	1,250	1.93%	1,254	1,255
0.925%	Bond 2017/2023	USD	850	0.83%	664	–
0.875%	Bond 2016/2023	GBP	250	1.06%	279	289
2.5%	Bond 2014/2024	EUR	500	2.60%	497	497
1.750%	Bond 2017/2025	GBP	300	1.87%	335	–
3.675%	Bond 2013/2025	NOK	1,450	3.70%	147	159
0.875%	Bond 2017/2027	EUR	1,000	1.04%	984	–
2.670%	Bond 2017/2029	NOK	1,600	2.69%	162	–
1.5%	Bond 2016/2031	EUR	200	1.58%	198	198
0.875%	Bond 2016/2031	EUR	500	1.01%	492	491
2.37%	Bond 2016/2031	HKD	1,300	2.37%	139	159
1,450%	Bond 2017/2032	EUR	300	1.57%	296	–
3%	Bond 2013/2033	EUR	500	3.15%	491	491
2.875%	Bond 2013/2033	EUR	200	3.09%	198	198
1.625%	Bond 2017/2037	EUR	750	1.73%	736	–
3.25%	Bond 2013/2043	EUR	200	3.27%	199	199
3.89%	U.S. Private Placement Series A 2013/2025	USD	250	3.92%	208	237
4.09%	U.S. Private Placement Series B 2013/2028	USD	700	4.11%	582	663
4.43%	U.S. Private Placement Series C 2013/2034	USD	300	4.45%	250	284
BASF Finance Europe N.V.						
0.0%	Bond 2016/2020	EUR	1,000	0.14%	996	995
0.75%	Bond 2016/2026	EUR	500	0.88%	494	494
Ciba Specialty Chemicals Finance Luxembourg S.A.						
4.875%	Bond 2003/2018	EUR	477	4.88%	474	461
Other bonds					**547**	**631**
Bonds and other liabilities to the capital market					**15,653**	**13,457**
Liabilities to credit institutions					2,379	2,855
Financial indebtedness					**18,032**	**16,312**

Breakdown of financial indebtedness by currency (million €)

	December 31, 2017	December 31, 2016
Euro	13,326	10,897
U.S. dollar	2,922	3,346
British pound	614	1,048
Norwegian krone	309	159
Hong Kong dollar	139	159
Argentinian peso	137	194
Chinese renminbi	127	118
South African rand	73	28
Turkish lira	65	59
Ukrainian hryvnia	63	55
Japanese yen	58	–
Brazilian real	53	113
Indonesian rupiah	43	29
Other currencies	103	107
Total	**18,032**	**16,312**

Maturities of financial indebtedness (million €)

	December 31, 2017	December 31, 2016
Following year 1	2,497	3,767
Following year 2	2,052	1,887
Following year 3	1,845	2,115
Following year 4	1,140	1,304
Following year 5	1,781	1,049
Following year 6 and maturities beyond this year	8,717	6,190
Total	**18,032**	**16,312**

Other bonds

Other bonds consist primarily of industrial revenue and pollution control bonds of the BASF Corporation group that were used to finance investments in the United States. Both the weighted-average interest rate of these bonds as well as their weighted-average effective interest rate amounted to 3.1% in 2017 and 2.1% in 2016. The average residual term amounted to 183 months as of December 31, 2017 (December 31, 2016: 195 months).

Liabilities to credit institutions

In order to finance the natural gas transportation business, a €1,650 million loan was incurred with a 5-year term at an interest rate of 1.08% in 2014. In 2017, €925 million of this amount was transferred to the newly established company W & G Infrastruktur Finanzierungs-GmbH, Kassel, Germany, accounted for using the equity method, to finance the natural gas transportation companies, GASCADE Gastranport GmbH, Kassel, Germany, and NEL Gastransport GmbH, Kassel, Germany, which are also accounted for using the equity method.

The weighted average interest rate on loans amounted to 4.1% in 2017 compared with 4.5% in 2016.

Unused credit lines

BASF SE had committed and unused credit lines with variable interest rates amounting to €6,000 million both as of December 31, 2017 and as of December 31, 2016.

Other liabilities (million €)

	December 31, 2017		December 31, 2016	
	Noncurrent	Current	Noncurrent	Current
Derivatives with negative fair values	290	274	78	571
Liabilities from finance leases	99	25	84	22
Loan and interest liabilities	283	212	280	199
Miscellaneous liabilities	94	1,289	97	791
Other liabilities which qualify as financial instruments	**766**	**1,800**	**539**	**1,583**
Advances received on orders	–	564	–	556
Liabilities related to social security	67	77	95	68
Employee liabilities	28	253	45	310
Liabilities from precious metal trading positions	–	17	–	13
Deferred income	197	78	171	66
Miscellaneous liabilities	37	275	23	254
Other liabilities which do not qualify as financial instruments	**329**	**1,264**	**334**	**1,267**
Other liabilities	**1,095**	**3,064**	**873**	**2,850**

Other liabilities

The increase in current other liabilities was primarily due to cash deposits from group companies accounted for using the equity method, which are reported under **miscellaneous liabilities**. Current derivatives with negative fair values decreased due to negative fair market values arising from foreign currency hedging. By contrast, the noncurrent negative fair values increased. This related primarily to higher negative fair values from hedging using combined interest and cross-currency swaps involving USD, GBP and HKD bonds.

For more information on financial risks and derivative instruments, see Note 27 from page 222 onward

For more information on liabilities arising from leasing contracts, see Note 28 from page 228 onward

Secured liabilities (million €)

	Dec. 31, 2017	Dec. 31, 2016
Liabilities to credit institutions	22	24
Accounts payable, trade	6	6
Other liabilities	169	63
Secured liabilities	**197**	**93**

Liabilities to credit institutions were secured primarily with registered land charges. The increase in secured **other liabilities** compared with December 31, 2016, is primarily attributable to higher collateral for derivative instruments with negative fair values. As in the previous year, there were no secured contingent liabilities in 2017.

25 Other financial obligations

The figures listed below are stated at nominal value:

Million €	**December 31, 2017**	**December 31, 2016**
Bills of exchange	9	9
Guarantees	11	12
Warranties	49	43
Collateral granted on behalf of third-party liabilities	1	1
Initiated investment projects	4,109	5,394
Thereof purchase commitments	1,045	1,391
for the purchase of intangible assets	16	7
Payment and loan commitments and other financial obligations	19	25

BASF provides unlimited guarantees, particularly to the Danish government as well as the state-owned company Nordsøfonden, as a precondition for the exploration for and production of hydrocarbons in the Danish concession area by the joint venture Wintershall Noordzee B.V., Rijswijk, Netherlands. Partially countering the possible 100% liability of BASF arising from these guarantees are the 50% guarantees of the joint-venture partner in favor of BASF. Drawing on these guarantees was not foreseeable as of December 31, 2017.

Assets used under long-term leases

Assets used under long-term leases primarily concerned buildings and IT infrastructure.

For more information on liabilities arising from leasing contracts, see Note 28 from page 228 onward

Obligations arising from long-term leases (excluding finance leases) (million €)

2018	362
2019	273
2020	207
2021	137
2022	111
2023 and maturities beyond this year	320
Total	**1,410**

Obligations arising from purchase contracts

Obligations arising from purchase contracts resulted primarily from long-term purchase obligations for raw materials. Firm purchase obligations as of December 31, 2017, were as follows:

Obligations arising from purchase contracts (million €)

2018	7,306
2019	4,776
2020	2,688
2021	2,374
2022	2,362
2023 and maturities beyond this year	7,112
Total	**26,618**

Further possible obligations arising from agreements existing as of December 31, 2017 are shown in 2.4: Acquisitions and divestitures.

26 Risks from litigation and claims

In the arbitration proceedings initiated in May 2013, Metrogas S.A., Chile, claims damages valued in an amount of €227 million as a result of insufficient gas deliveries against Wintershall Energía S.A., Argentina (WIAR), Total Austral S.A., Argentina, and Pan American Energy LLC, Argentina. The defendants, as sellers, concluded a natural gas supply contract with Metrogas in 1997. WIAR's share of supply in the contract is 37,5%. After the resignation of the chairman of the Arbitral Tribunal in mid-2016, the International Chamber of Commerce (ICC) nominated a new Arbitral Tribunal that pursued the arbitration proceedings during 2017. The hearing took place in April 2017. On February 2, 2018, the Arbitral Tribunal dismissed the Metrogas claim in its entirety and imposed the procedural costs on Metrogas.

BASF Corporation has potential liability under the Comprehensive Response, Compensation and Liability Act of 1980, as amended, and related state laws for investigation and cleanup at certain sites. The Lower Passaic River Study Area (LPRSA) is one such site comprising the lower 17 miles of the Passaic River in New Jersey. BASF Corporation and more than 60 other companies (collectively, the Lower Passaic River Study Area Cooperating Parties Group or CPG) are conducting a remedial investigation / feasibility study (RI/FS) of the LPRSA. In 2016, the United States Environmental Protection Agency (USEPA) selected a final remedy for the lower 8 miles of the LPRSA. An agreement with USEPA on work in the upper portion of the LPRSA may occur as early as 2018.

Between November 2014 and March 2015, a putative class action lawsuit and several additional lawsuits were filed in the United States District Court of the Southern District of New York against BASF Metals Limited (BML), based in the United Kingdom, along with other defendants, alleging violations of antitrust and commodities laws stemming from the price discovery process for platinum and palladium. The lawsuits were consolidated, and a Second Consolidated Amended Class Action Complaint was eventually filed in July 2015. This Complaint also names as a defendant, among others, BASF Corporation. On September 21, 2015, the defendants filed a Joint Motion to Dismiss the Second Consolidated Amended Class Action Complaint, and BML and BASF Corporation filed individual motions to dismiss. On March 28, 2017, the Court dismissed the Second Consolidated Amended Class Action Complaint against BASF Corporation and BML on jurisdictional grounds. On May 15, 2017, the plaintiffs filed an amended Complaint that renews allegations against defendants and BML, while BASF Corporation is not named as a defendant. The defendants filed a renewed Joint Motion to Dismiss and BML filed a renewed Motion to Dismiss. A pro se complaint filed in September 2015 was dismissed by the U.S. District Court on October 19, 2017. The plaintiff filed an appeal to the U.S. Court of Appeals on November 19, 2017.

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

27 Supplementary information on financial instruments

27.1 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 a variety of 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 which 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 is conducted by simulating a 10% appreciation of the respective functional currency against the other currencies. The effect on BASF's income before taxes and minority interests would have been minus €252 million as of December 31, 2017, and minus €300 million as of December 31, 2016. The effect from the items designated under hedge accounting would have increased the equity of the shareholders of BASF SE before income taxes by €46 million as of December 31, 2017 (2016: increase of €24 million). This only refers to transactions in U.S. dollars. The foreign currency risk exposure amounted to €1,976 million as of December 31, 2017 and €2,113 million as of December 31, 2016.

Exposure and sensitivity by currency (million €)

	December 31, 2017		December 31, 2016	
	Exposure	Sensitivity	Exposure	Sensitivity
USD	1,410	(143)	1,849	(241)
Other	566	(63)	264	(35)
Total	**1,976**	**(206)**	**2,113**	**(276)**

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 result from changes in prevailing market interest rates, which can cause a change in the fair value of fixed-rate instruments, and changes in the interest payments of variable-rate instruments. To hedge these risks, interest rate swaps and combined interest rate and currency derivatives are used. While these risks are relevant to the financing activities of BASF, they are not of material significance for BASF's operating activities.

The variable interest exposure, which also includes fixed rate bonds set to mature in the following year, amounted to minus €986 million as of December 31, 2017 (2016: minus €2,447 million). An increase in all relevant interest rates by one percentage point would have raised income before taxes and minority interests by €4 million as of December 31, 2017, and raised income before taxes and minority interests by €1 million as of December 31, 2016. The effect from the items designated under hedge accounting would have increased the equity of the shareholders of BASF SE before income taxes by €9 million as of December 31, 2017 (2016: increase of €16 million).

Carrying amount of nonderivative interest-bearing financial instruments (million €)

	December 31, 2017		December 31, 2016	
	Fixed interest rate	Variable interest rate	Fixed interest rate	Variable interest rate
Loans	569	439	208	610
Securities	88	87	105	568
Financial indebtedness	14,703	3,329	12,564	3,748

Nominal and fair values of interest rate swaps and combined interest and cross-currency swaps (million €)

	December 31, 2017		December 31, 2016	
	Nominal value	Fair value	Nominal value	Fair value
Interest rate swaps	**600**	**(13)**	**1,700**	**(27)**
Thereof payer swaps	600	(13)	1,700	(27)
Combined interest and cross-currency swaps	**3,337**	**(175)**	**2,745**	**45**
Thereof fixed rate	3,337	(175)	2,476	121

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, propylene, benzene, lauric oils, cyclohexane, methanol, natural gas, butadiene, LPG condensate and ammonia) as well as from precious metals. BASF takes the following measures to reduce price risks associated with the purchase of raw materials:

- BASF uses commodity derivatives to hedge the risks from the volatility of raw materials prices. These are primarily options and swaps on crude oil, oil products and natural gas.
- In the Oil & Gas segment, risks to margins arise in volatile markets when purchase and sales contracts are priced differently. Corresponding oil and gas derivatives are used to hedge these risks.
- The Catalysts division enters into both short-term and long-term purchase contracts with precious metal producers. It also buys precious metals on spot markets from a variety of business partners. The price risk from precious metals purchased to be sold on to third parties, or for use in the production of catalysts, is hedged using derivative instruments. This is mainly done using forward contracts which are settled by either entering into offsetting contracts or by delivering the precious metals.
- In the Crop Protection division, the sales prices of products are sometimes coupled 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.

In connection with CO_2 emissions trading, various types of CO_2 certificates are purchased and sold using forward contracts. The goal of these transactions is to benefit from market price differences. These deals are settled by physical delivery. As of December 31, 2017 and as of December 31, 2016, there were no deals outstanding.

By holding commodity derivatives and precious metal trading positions, BASF is exposed to price risks. The valuation of commodity derivatives and precious metal trading positions at fair value means that adverse changes in market prices could negatively affect the earnings and equity of BASF.

BASF performs value-at-risk analyses for all commodity derivatives and precious metals trading positions. Using the value-at-risk analysis, we continually quantify market risk and forecast the maximum possible loss within a given confidence interval over a defined period. The value-at-risk calculation is based on a confidence interval of 95% and a holding period of one day. The value-at-risk calculation for precious metals is based on a confidence interval of 99%. BASF uses the variance-covariance approach.

BASF uses value at risk as a supplement to other risk management tools. Besides value at risk, BASF sets volume-based limits as well as exposure and stop-loss limits.

Exposure to commodity derivatives (million €)

	December 31, 2017		December 31, 2016	
	Exposure	Value at Risk	Exposure	Value at Risk
Crude oil, oil products and natural gas	90	1	6	1
Precious metals	36	2	5	1
Emission certificates	–	–	–	–
Agricultural commodities	0	0	(40)	0
Total	**126**	**3**	**(29)**	**2**

The exposure corresponds to the net amount of all long and short positions of the respective commodity category.

For more information regarding financial risks and BASF's risk management, see the Opportunities and risks report in the Management's Report from page 111 onward

Default and credit risk

Default and credit risks arise when counterparties do not fulfill their contractual obligations. BASF regularly analyzes the creditworthiness of each significant debtor 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 other financial obligations subject to default risk represents the maximum default risk for BASF.

For more information on credit risks, see Note 18 from page 208 onward

Liquidity risks

BASF promptly recognizes any risks from cash flow fluctuations as part of the liquidity planning. BASF has ready access to sufficient liquid funds from our ongoing commercial paper program and confirmed lines of credit from banks.

27.2 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 a negative fair value and therefore represent a liability. Derivatives with positive fair values are assets and are therefore not considered.

Trade accounts payable are generally interest-free and due within one year. Therefore, the carrying amount of trade accounts payable equals the sum of future cash flows.

Maturities of contractual cash flows from financial liabilities as of December 31, 2017 (million €)

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Liabilities resulting from derivative financial instruments	Miscellaneous liabilities	Total
2018	2,097	698	180	1,578	4,553
2019	2,237	34	70	80	2,421
2020	1,527	541	8	82	2,158
2021	1,219	132	–	46	1,397
2022	1,865	113	50	38	2,066
2023 and thereafter	9,234	861	225	278	10,598
Total	**18,179**	**2,379**	**533**	**2,102**	**23,193**

Maturities of contractual cash flows from financial liabilities as of December 31, 2016 (million €)

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Liabilities resulting from derivative financial instruments	Miscellaneous liabilities	Total
2017	2,687	1,356	561	1,097	5,701
2018	2,025	128	15	88	2,256
2019	936	1,368	11	47	2,362
2020	1,475	10	13	53	1,551
2021	1,163	5	–	81	1,249
2022 and thereafter	7,269	4	60	305	7,638
Total	**15,555**	**2,871**	**660**	**1,671**	**20,757**

27.3 Classes and categories of financial instruments

For trade accounts receivable, other receivables and miscellaneous assets, loans, cash and cash equivalents, as well as trade accounts payable and other liabilities, the carrying amount approximates the fair value. Shareholdings which are not traded on an active market and whose fair value could not be reliably determined are recognized at amortized cost and are reported under other financial assets.

The fair value of financial indebtedness is determined on the basis of interbank interest rates. The difference between carrying amounts and fair values results primarily from changes in market interest rates.

Carrying amounts and fair values of financial instruments as of December 31, 2017 (million €)

	Carrying amount	Total carrying amount within scope of application of IFRS 7	Valuation category in accordance with IAS 39[2]	Fair value	Thereof fair value level 1[3]	Thereof fair value level 2[4]	Thereof fair value level 3[5]
Shareholdings[1]	482	482	Afs	–	–	–	–
Receivables from finance leases	29	29	n/a	29	–	–	–
Accounts receivable, trade	11,190	11,190	LaR	11,190	–	–	–
Derivatives – no hedge accounting	340	340	aFVtPL	340	14	326	–
Derivatives – with hedge accounting	72	72	n/a	72	–	72	–
Other receivables and other assets[6]	3,996	1,508	LaR	1,508	–	–	–
Securities	175	175	Afs	175	175	–	–
Securities	1	1	Htm	–	–	–	–
Cash and cash equivalents	6,495	6,495	LaR	6,495	6,495	–	–
Total assets	**22,780**	**20,292**		**19,809**	**6,684**	**398**	**–**
Bonds	15,653	15,653	AmC	16,406	–	–	–
Commercial paper	–	–	AmC	–	–	–	–
Liabilities to credit institutions	2,379	2,379	AmC	2,379	–	–	–
Liabilities from finance leases	124	124	n/a	124	–	–	–
Accounts payable, trade	4,971	4,971	AmC	4,971	–	–	–
Derivatives – no hedge accounting	551	551	aFVtPL	551	36	515	–
Derivatives – with hedge accounting	13	13	n/a	13	–	13	–
Other liabilities[6]	3,471	1,878	AmC	1,878	–	–	–
Total liabilities	**27,162**	**25,569**		**26,322**	**36**	**528**	**–**

Carrying amounts and fair values of financial instruments as of December 31, 2016 (million €)

	Carrying amount	Total carrying amount within scope of application of IFRS 7	Valuation category in accordance with IAS 39[2]	Fair value	Thereof fair value level 1[3]	Thereof fair value level 2[4]	Thereof fair value level 3[5]
Shareholdings[1]	468	468	Afs	–	–	–	–
Receivables from finance leases	34	34	n/a	34	–	–	–
Accounts receivable, trade	10,952	10,952	LaR	10,952	–	–	–
Derivatives – no hedge accounting	346	346	aFVtPL	346	14	332	–
Derivatives – with hedge accounting	172	172	n/a	172	–	172	–
Other receivables and other assets[6]	3,736	1,370	LaR	1,370	–	–	–
Securities	672	672	Afs	672	672	–	–
Securities	1	1	Htm	–	–	–	–
Cash and cash equivalents	1,375	1,375	LaR	1,375	1,375	–	–
Total assets	**17,756**	**15,390**		**14,921**	**2,061**	**504**	**–**
Bonds	12,424	12,424	AmC	13,144	–	–	–
Commercial paper	1,033	1,033	AmC	1,033	–	–	–
Liabilities to credit institutions	2,855	2,855	AmC	2,855	–	–	–
Liabilities from finance leases	106	106	n/a	106	–	–	–
Accounts payable, trade	4,610	4,610	AmC	4,610	–	–	–
Derivatives – no hedge accounting	623	623	aFVtPL	623	0	623	–
Derivatives – with hedge accounting	26	26	n/a	26	–	26	–
Other liabilities[6]	2,968	1,367	AmC	1,367	–	–	–
Total liabilities	**24,645**	**23,044**		**23,764**	**0**	**649**	**–**

1 The difference between carrying amount and fair value results from shareholdings measured at acquisition cost, for which the fair value could not be reliably determined (2017: €482 million; 2016: €468 million).

2 Afs: available-for-sale (category: available-for-sale financial assets); LaR: loans and receivables (category: loans and receivables); aFVtPL: at-fair-value-through-profit-or-loss (category: financial assets and liabilities at fair value recognized in the income statement); AmC: amortized cost (category: financial liabilities which are not derivatives); Htm: Held-to-maturity (category: financial assets held to maturity); a more detailed description of the categories can be found in Note 1 from page 173 onward.

3 Determination of the fair value based on quoted, unadjusted prices on active markets

4 Determination of the fair value based on parameters for which directly or indirectly quoted prices on active markets are available

5 Determination of the fair value based on parameters for which there is no observable market data

6 Not including separately shown derivatives as well as receivables and liabilities from finance leases

Offsetting of financial assets and financial liabilities as of December 31, 2017 (million €)

	Amounts which can be offset			Amounts which cannot be offset		
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	Potential net amount
Derivatives with positive fair values	376	(39)	337	(55)	(10)	272
Derivatives with negative fair values	(373)	(39)	(412)	(55)	(139)	(606)

Offsetting of financial assets and financial liabilities as of December 31, 2016 (million €)

	Amounts which can be offset			Amounts which cannot be offset		
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	Potential net amount
Derivatives with positive fair values	491	(46)	445	(101)	(124)	220
Derivatives with negative fair values	515	(46)	469	(101)	(47)	321

The table “Offsetting of financial assets and financial liabilities” shows the extent to which financial assets and financial liabilities are offset in the balance sheet, as well as potential effects from the offsetting of instruments subject to a legally enforceable global netting agreement or similar agreement. For positive fair values of combined interest and cross-currency swaps, the respective counterparties provided cash collaterals in corresponding amounts 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 2017 and 2016 arose from derivatives not subject to any netting agreements as well as from embedded derivatives and are therefore not included in the table above.

Net gains and losses from financial instruments 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 those gains and losses from instruments which are not designated as hedging instruments as defined by IAS 39. Net gains or net losses from available-for-sale financial assets contain income and expenses from write-downs/reversals of write-downs, interest, dividends and the reclassification of valuation effects from equity on the sale of the securities and shareholdings.

Net gains and losses from financial instruments (million €)

	2017	2016
Loans and receivables	(311)	(166)
Thereof interest result	90	74
Available-for-sale financial assets	(24)	22
Thereof interest result	2	2
Financial liabilities measured at amortized cost	249	(124)
Thereof interest result	(359)	(390)
Financial instruments at fair value through profit or loss	(396)	(558)

The decrease in net losses from financial liabilities measured at amortized cost primarily arose from the currency translation of financing-related liabilities denominated in foreign currencies, which resulted in a higher translation gain in 2017 than in the previous year. There was also a decline in the net loss for financial instruments measured at fair value through profit or loss. This development is primarily due to realized and unrealized results from derivatives to hedge foreign currency transactions. Countering this was a higher net loss from loans and receivables largely attributable to the foreign currency translation of receivables.

The gains and losses from the valuation of securities and shareholdings recognized in the equity of the shareholders of BASF SE are shown in the Statement of income and expense recognized in equity on page 169.

27.4 Derivative instruments and hedge accounting

The use of derivative instruments

BASF is exposed to foreign-currency, interest-rate and commodity-price risks during the normal course of business. These risks are hedged through a centrally determined strategy employing derivative instruments. Hedging is only employed for underlying items from the operating business, cash investments, and financing as well as for planned sales, raw material purchases and capital measures. The risks from the underlying transactions and the derivatives are constantly 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 effective risk management, risk positions are centralized at BASF SE and certain Group companies. The contracting and execution of derivative financial instruments for hedging purposes are conducted according to internal guidelines, and subject to strict control mechanisms.

The fair values of derivative financial instruments are calculated using valuation models which use input parameters observable on the market. Exceptions to this are some commodity derivatives, whose valuation is based directly on market prices.

Fair value of derivative instruments (million €)

	December 31, 2017	December 31, 2016
Foreign currency forward contracts	65	(163)
Foreign currency options	37	15
Foreign currency derivatives	**102**	**(148)**
Thereof designated hedging instruments as defined by IAS 39 (hedge accounting)	34	3
Interest rate swaps	(13)	(27)
Thereof designated hedging instruments as defined by IAS 39 (hedge accounting)	(13)	(21)
Combined interest and cross-currency swaps	(175)	45
Thereof designated hedging instruments as defined by IAS 39 (hedge accounting)	38	163
Interest derivatives	**(188)**	**18**
Commodity derivatives	**(66)**	**(1)**
Thereof designated hedging instruments as defined by IAS 39 (hedge accounting)	1	1
Derivative financial instruments	**(152)**	**(131)**

Cash flow hedge accounting

Some of the planned purchases of naphtha are hedged using swaps and options on oil and oil products. For the reporting of these hedges in the Consolidated Financial Statements of the BASF Group, no hedge accounting was applied in 2017 and in 2016.

Cash flow hedge accounting continues to be used to a minor extent for natural gas purchases, so that gains and losses from hedging instruments are initially recognized in equity. Gains and losses from hedging instruments are included in cost of sales at the point in time at which the hedged item is recognized in profit or loss.

The planned transactions and their effect on earnings occur in the year following the balance sheet date. In 2017, effective changes in the fair value of hedging instruments of €200,000 (2016: €1 million) were recognized in the equity of the shareholders of BASF SE. In 2017, effective changes in the fair value of hedging instruments of €300,000 were derecognized from the equity of shareholders of BASF SE and recognized in other operating income (2016: €1 million). The ineffective part in the change in value of the hedge amounted to minus €100,000 in 2017 and minus €1 million in 2016. These amounts were reported in the income statement in other operating expenses.

BASF also uses cash flow hedge accounting for some foreign currency derivatives to hedge planned sales denominated in U.S. dollars. The impact on earnings from the underlying transactions occurs in 2018. In 2017, the effective change in values of the hedges was €71 million (2016: €9 million), which was recognized in the equity of the shareholders of BASF SE. A total of €44 million (2016: €11 million) was derecognized from the equity of shareholders of BASF SE and was recognized in income from foreign currency and hedging transactions. The hedges were entirely effective.

To hedge foreign currency risk which existed for a part of the U.S. dollar-denominated purchase price for the acquisition of Chemetall, BASF used options and foreign currency forward contracts in the previous year. These were designated as hedging instruments and led to effective changes in the amount of €97 million, which was recognized in the equity of the shareholders of BASF SE. Upon completion of the transaction in December 2016, this amount was derecognized from the equity of the shareholders of BASF SE reducing the purchase price accordingly and along with that the resulting goodwill arising from the transaction. The ineffective part of the fair value changes of the hedging instruments amounted to minus €10 million and was recognized in other operating expenses.

The interest rate risk of the floating rate notes issued by BASF SE in 2013 was hedged using interest rate swaps. The bond and the interest rate swaps were designated in a hedging relationship. The effective changes in the fair value of the hedging instruments amounting to €6 million were recognized in equity of the shareholders of BASF SE in 2017. In the previous year, the variable interest bond issued in 2014 and expired in 2017 was also hedged by interest rate swaps. The effective changes in the fair value recognized in equity of the shareholders of BASF SE amounted to €6 million in 2016. There were no ineffective parts in either year.

Furthermore, BASF SE's fixed-rate U.S. private placement of $1.25 billion, issued in 2013, was converted into euros using currency swaps. This hedge was designated as a cash flow hedge. The hedge was entirely effective. In 2017, this resulted in changes in fair value of minus €125 million, which were recognized in the equity of the shareholders of BASF SE (2016: minus €33 million). In 2017, €144 million was derecognized from other comprehensive income and recorded as an expense in the financial result (2016: €38 million income in financial result).

28 Leases

Leased assets

Property, plant and equipment include assets which are considered to be economically owned through a finance lease. They primarily concern the following items:

Leased assets (million €)

	December 31, 2017		December 31, 2016	
	Acquisition cost	Net book value	Acquisition cost	Net book value
Land, land rights and buildings	22	9	46	26
Machinery and technical equipment	118	43	136	43
Miscellaneous equipment and fixtures	113	44	59	25
Total	**253**	**96**	**241**	**94**

Liabilities from finance leases (million €)

	December 31, 2017			December 31, 2016		
	Minimum lease payments	Interest portion	Leasing liability	Minimum lease payments	Interest portion	Leasing liability
Following year 1	32	5	27	28	5	23
Following year 2	37	5	32	30	4	26
Following year 3	22	4	18	19	4	15
Following year 4	19	3	16	17	3	14
Following year 5	12	2	10	12	3	9
More than 5 years	26	5	21	35	14	21
Total	**148**	**24**	**124**	**141**	**33**	**108**

In the current business year and in the previous year, no additional lease payments exceeding minimum lease payments were recognized in the income statement due to contractual conditions for finance leases. In 2017 and in the previous year, leasing liabilities were not offset by any future minimum lease payments from subleases.

In addition, BASF is a lessee under operating lease contracts. The lease commitments totaling €1,410 million in 2017 (2016: €1,513 million) are due in the following years:

Commitments from operating lease contracts (million €)

	Nominal value of the future minimum lease payments	
	Dec. 31, 2017	Dec. 31, 2016
Less than 1 year	362	360
1-5 years	728	757
More than 5 years	320	396
Total	**1,410**	**1,513**

Future minimum lease payments from subleasing contracts based on existing agreements amounted to €10 million in 2017 (2016: €12 million).

In 2017, minimum lease payments of €448 million (2016: €446 million) were included in income from operations. In 2017, conditional lease payments of €1 million (2016: €1 million) were also included in income from operations. Furthermore, sublease payments of €3 million were included in income from operations in 2017 (2016: €4 million).

BASF as lessor

BASF acts as a lessor for finance leases to a minor extent only. Receivables on finance leases were €29 million in 2017 (2016: €33 million).

In 2017, claims arising from operating leases amounted to €93 million (2016: €89 million).

Future minimum lease payments to BASF from operating lease contracts (million €)

	Nominal value of the future minimum lease payments	
	Dec. 31, 2017	Dec. 31, 2016
Less than 1 year	19	17
1-5 years	50	49
More than 5 years	24	23
Total	**93**	**89**

Other explanatory notes

29 Statement of cash flows and capital structure management

Statement of cash flows

Cash provided by operating activities contained the following payments:

Million €	2017	2016
Income tax payments	2,147	1,495
Interest payments	409	459
Dividends received	498	225

Interest payments comprised interest payments received of €161 million (2016: €156 million) and interest paid of €570 million (2016: €615 million).

In 2017, BASF SE transferred securities in the amount of €500 million to BASF Pensionstreuhand e.V., Ludwigshafen, Germany. This transfer was not cash effective and therefore had no effect on the statement of cash flows.

In 2016, cash provided by operating activities included €262 million in pension benefits paid, which are covered by a contractual trust arrangement.

Cash used in investing activities included €150 million in payments made for acquisitions (2016: €2,828 million). In the previous year, payments had especially been made for the acquisition of the global surface treatment provider Chemetall from Albemarle Corp., Charlotte, North Carolina.

Payments of €177 million were received for divestitures in 2017 (2016: €664 million). In the previous year, payments had been received primarily from the sale of the Coatings division's industrial coatings business to the AkzoNobel Group and from the sale of the global polyolefin catalysts business to W.R. Grace & Co., Columbia, Maryland.

The payments made for property, plant and equipment, and intangible assets in the amount of €3,996 million included investments for 2017, to the extent that they already had an effect on cash.

Cash and cash equivalents were not subject to any utilization restrictions, as in the previous year.

For more information on cash flow from acquisitions and divestitures, see Note 2.4 from page 187 onward

Reconciliation according to IAS 7 (million €)

	31.12.2016	Cash-effective in cash provided by/used in financing activities	Non-cash effective changes				31.12.2017
			Acquisitions/ divestitures/ changes in the scope of consolidation	Currency effects	Other effects	Changes in fair value	
Financial indebtedness	16,312	2,330	4	(631)	17	–	18,032
Loan liabilities	357	(4)	29	(6)	–	–	376
Liabilities from finance leases	106	(31)	–	(5)	54[1]	–	124
Other financing-related liabilities	516	542	(23)	(3)	26	–	1,058
Financial and similar liabilities	**17,291**	**2,837**	**10**	**(645)**	**97**	**–**	**19,590**
Assets/liabilities from hedging transactions	205	411	–	–	–	(734)	(118)
Total	**17,496**	**3,248**	**10**	**(645)**	**97**	**(734)**	**19,472**

[1] Includes additions from leasing contracts

The reconciliation shows changes in such financial liabilities and hedging transactions for which payments received and made are shown under cash provided by/used in financing activities in the statement of cash flows.

Loan liabilities do not contain any interest components.

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

The **assets/liabilities relating to hedging transactions** form part of the balance sheet item derivatives with positive or negative fair values and include only those transactions which hedge risks arising from financial indebtedness and financing-related liabilities secured by micro hedges.

For more information on receivables and miscellaneous assets, see Note 18 from page 208 onward
For more information on liabilities, see Note 24 from page 218 onward

Capital structure management

The aim of capital structure management is to maintain the financial flexibility needed to further develop BASF's business portfolio and take advantage of strategic opportunities. The objectives of the company's financing policy are to secure solvency, limit financial risks and optimize the cost of capital.

Capital structure management focuses on meeting the requirements needed to ensure unrestricted access to capital markets and a solid A rating. BASF's capital structure is managed using selected financial ratios, such as dynamic debt ratios, as part of the company's financial planning.

The equity of the BASF Group as reported in the balance sheet amounted to €34,756 million as of December 31, 2017 (December 31, 2016: €32,568 million); the equity ratio was 44.1% on December 31, 2017 (December 31, 2016: 42.6%).

BASF prefers to access external financing on the capital markets. A commercial paper program is used for short-term financing, while corporate bonds are used for financing in the medium and long term. These are issued in euros and other currencies with different maturities. The goal is to create a balanced maturity profile, achieve a diverse range of investors and optimize our debt capital financing conditions.

Currently, BASF has the following ratings, which were most recently confirmed in the fourth quarter of 2017 (Moody's: December 19, 2017; Standard & Poor's and Scope: October 18, 2017).

Dec. 31, 2017	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Moody's	A1	P-1	stable
Standard & Poor's	A	A-1	stable
Scope	A	S-1	stable

Dec. 31, 2016	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Moody's	A1	P-1	stable
Standard & Poor's	A	A-1	stable
Scope	A	S-1	stable

BASF strives to maintain at least a solid A rating, which ensures unrestricted access to financial and capital markets.

For more information on financing policy and the Statement of Cash Flows, see the Management's Report from page 58 onward

30 Share price-based compensation program and BASF incentive share program

Share price-based compensation program

In 2017, BASF continued its share price-based compensation program known as the long-term incentive (LTI) program for the BASF Group, which has been in place since 1999. Approximately 1,200 people, in particular the Board of Executive Directors and senior executives, are currently eligible to participate in this program. This program provides for the granting of virtual options, which are settled in cash when exercised.

Participation in the LTI program is voluntary. In order to take part in the program, a participant must make a personal investment: A participant must hold BASF shares amounting to 10% to 30% of his or her individual variable compensation for a two-year period from the granting of the option (holding period). The number of shares to be held is determined by the amount of variable compensation and the volume-weighted average market price for BASF shares on the first business day after the Annual Shareholders' Meeting, which was €87.84 on May 15, 2017.

The participant receives 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 (absolute threshold). The value of right A is the difference between the market price of BASF shares on the exercise date and the base price; it is limited to 100% of the base price. If the cumulative percentage performance of BASF shares exceeds the percentage performance of the MSCI World Chemicals Index^{SM} (MSCI Chemicals), right B may be exercised (relative threshold). The value of right B is the base price of the option multiplied by twice the percentage outperformance of BASF shares compared with the MSCI Chemicals Index on the exercise date. It is limited to the closing price on the date of exercise minus the computed nominal value of BASF shares. Beginning with the 2013 LTI program, right B is only valuable if the price of BASF shares at least corresponds with the base price. The options of the LTI program 2017 were granted on July 1, 2017, and may be exercised following a two-year vesting period, between July 1, 2019, and June 30, 2025. During the exercise period, there are certain times (closed periods) during which the options may not be exercised. Each option can only be exercised in full. This means that one of the performance targets must be surpassed. If the other performance target is not surpassed and the option is exercised, the other option right lapses. A participant's maximum gain from exercising an option is limited to five times the original individual investment starting with the 2013 LTI program. The maximum gain from exercising an option is limited to 10 times the original individual investment for programs from previous years. Option rights are nontransferable and are forfeited if the option holders no longer work for BASF or have sold part of their individual investment before the expiry of the two-year vesting period. They remain valid in the case of retirement. For the members of the Board of Executive Directors, the long-term orientation of the program is significantly strengthened compared with the conditions applying to the other participants. The members of the Board of Executive Directors are required to participate in the LTI 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 options at least four years after they have been granted (vesting period).

The 2010 to 2016 programs were structured in a similar way to the LTI program 2017.

The models used in the valuation of the option plans are based on the arbitrage-free valuation model according to Black-Scholes. The fair values of the options are determined using the binomial model.

Fair value of options and parameters used as of December 31, 2017

		LTI program of the year	
		2017	2016
Fair value	€	33.87	41.23
Dividend yield	%	3.38	3.38
Risk-free interest rate	%	0.19	0.05
Volatility BASF share	%	23.63	23.11
Volatility MSCI Chemicals	%	14.22	14.34
Correlation BASF share price: MSCI Chemicals	%	73.41	76.13

The stated fair values and the valuation parameters relate to the LTI programs 2017 and 2016. The fair value calculation was based on the assumption that options will be exercised in a manner dependent on their potential gains. For the programs from preceding years, corresponding fair values were computed and valuation parameters were used.

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

The number of options granted amounted to 1,461,113 in 2017 (2016: 1,710,404).

As a result of a resolution by the Board of Executive Directors in 2002 to settle options in cash, options outstanding from the LTI programs 2010 to 2017 were valued with the fair value as of December 31, 2017. A proportionate provision is recorded for programs in the vesting period. The LTI provision decreased from €464 million as of December 31, 2016 to €347 million as of December 31, 2017 due to lower fair values of the outstanding option rights. The utilization of provisions amounted to €49 million in 2017 (2016: €25 million). Income arising from the reversal of provisions amounted to €68 million in 2017. The previous year had included an expense of €267 million.

The total intrinsic value of the exercisable options amounted to €145 million as of December 31, 2017 and €167 million as of December 31, 2016.

BASF 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 the LTI program is not allowed.

Employees who participate in the BASF incentive share program “*plus*” acquire shares in BASF 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 ten years of holding the BASF shares. As a rule, the first and second block of ten 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 the 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)

	2017	2016
As of January 1	**2,849,723**	**2,829,521**
Newly acquired entitlements	570,465	637,610
Bonus shares issued	(479,111)	(519,984)
Lapsed entitlements	(129,630)	(97,424)
As of December 31	**2,811,447**	**2,849,723**

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 stock price of BASF shares, 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 €86.02 for the 2017 program, and €67.90 for the 2016 program.

The fair value of the free shares to be granted is recognized as an expense with a corresponding increase in capital surplus over the term of the program.

Personnel expenses of €28 million were recorded in 2017 for the BASF incentive share program “*plus*” (2016: €28 million).

31 Compensation for the Board of Executive Directors and Supervisory Board

Million €	2017	2016
Performance-related and not performance-related cash compensation for the Board of Executive Directors	24.8	17.4
Fair value of options granted to the Board of Executive Directors in the fiscal year as of grant date	2.7	4.0
Total compensation for the Board of Executive Directors	**27.5**	**21.4**
Service costs for members of the Board of Executive Directors	7.0	3.3
Compensation for the Supervisory Board	3.3	3.0
Total compensation for former members of the Board of Executive Directors and their surviving dependents[1]	7.6	15.9
Pension provisions for former members of the Board of Executive Directors and their surviving dependents	144.3	150.4
Guarantees assumed for members of the Board of Executive Directors and the Supervisory Board	–	–

[1] Compensation for Dr. Harald Schwager and Margret Suckale from their active membership on the Board of Executive Directors in 2017 is included under total compensation for former members of the Board of Executive Directors

Performance-related compensation for the Board of Executive Directors is based on the return on assets adjusted for special effects, as well as the performance of the entire Board. Return on assets corresponds to income before taxes and minority interests plus interest expenses as a percentage of average assets.

The members of the Board of Executive Directors were granted 127,276 options under the long-term incentive (LTI) program in 2017.

The market valuation of the options of active and former members of the Board resulted in income of €5.8 million in 2017. In 2016, the market valuation of the options resulted in expenses of €30.7 million.

For more information on the compensation of members of the Board of Executive Directors, see the Compensation Report from page 140 onward

For more information on the members of the Supervisory Board and Board of Executive Directors, including their memberships on other boards, see page 137 onward

32 Related-party transactions

A related party is a natural person or legal entity which can exert influence on the BASF Group or over which the BASF Group exercises control or joint control or a significant influence. In particular, this comprises nonconsolidated subsidiaries, joint ventures and associated companies.

The following tables show the volume of business with related parties that are included at amortized cost or accounted for using the equity method.

Sales to related parties (million €)

	2017	2016
Nonconsolidated subsidiaries	413	395
Joint ventures	379	317
Associated companies	307	245

Trade accounts receivable from / trade accounts payable to related parties (million €)

	Accounts receivable, trade		Accounts payable, trade	
	December 31, 2017	December 31, 2016	December 31, 2017	December 31, 2016
Nonconsolidated subsidiaries	136	135	77	73
Joint ventures	69	76	75	92
Associated companies	71	55	29	44

Other receivables and liabilities with related parties (million €)

	Other receivables		Other liabilities	
	December 31, 2017	December 31, 2016	December 31, 2017	December 31, 2016
Nonconsolidated subsidiaries	172	176	180	178
Joint ventures	306	196	734	97
Associated companies	73	390	236	258

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 business.

Other receivables and liabilities primarily arose from financing activities, from accounts used for cash pooling, outstanding dividend payments, profit-and-loss transfer agreements, and other finance-related and operating activities and transactions.

The decline in other receivables from associated companies and the increase in other receivables from joint ventures was largely due to the transfer of the financing function for the regulated gas transportation activities to the newly established joint venture W & G Infrastruktur Finanzierungs-GmbH, Kassel, Germany. Receivables from the associated companies GASCADE Gastransport GmbH, Kassel, Germany, and NEL Gastransport GmbH, Kassel, Germany, in the amount of €259 million were transferred to W & G Infrastruktur Finanzierungs-GmbH and a loan of €140 million was granted to it. The cash that was also transferred to the joint venture was deposited in the BASF Group's cash pool and led to an increase of €665 million in other liabilities from joint ventures.

For more information, see Note 2.3 from page 186 onward

The €22 million decline in other liabilities from associated companies in 2017 was largely due to other financing-related liabilities.

Since the transfer of the global leather chemicals business to the Stahl group on September 29, 2017, BASF holds a minority interest in the parent company of the Stahl group, in which it can exercise significant influence. Sales, receivables, trade accounts receivable and other obligations resulting from transactions with Stahl group since then are included in the tables above in the values for associated companies in 2017.

The outstanding balances toward related parties were generally not secured and settled in cash. The balance of valuation allowances for trade accounts receivable from associated companies rose from €1 million as of December 31, 2016 to €9 million as of December 31, 2017.

Of this amount, €5 million was recognized as an expense in 2017 (2016: €1 million).

The balance of valuation allowances for other receivables from nonconsolidated subsidiaries decreased from €79 million as of December 31, 2016 to €74 million as of December 31, 2017. Of this amount, €1 million was recognized as an expense in 2017 (2016: €26 million).

There were obligations from guarantees and other financial obligations at BASF in favor of nonconsolidated subsidiaries in the amount of €5 million as of December 31, 2017 (December 31, 2016: €3 million) and in favor of associated companies in the amount of €23 million as of December 31, 2017 (December 31, 2016: €21 million).

There were no obligations arising from purchase contracts with associated companies as of December 31, 2017; as of December 31, 2016, these amounted to €26 million. Obligations arising from purchase contracts with joint ventures amounted to €3 million as of December 31, 2017, whereas there were no corresponding obligations as of December 31, 2016.

Effective December 31, 2017, the present value of the outstanding minimum rental payments for an office building including parking area payable by BASF SE to BASF Pensionskasse VVaG for the nonterminable basic rental period to 2029 amounted to €55 million.

There were no reportable related party transactions with members of the Board of Executive Directors or the Supervisory Board and their related parties in 2017.

For more information on subsidiaries, joint ventures and associated companies, see the BASF Group List of Shares Held on page 190

For more information on other financial obligations in favor of joint ventures, see Note 25 from page 220 onward

For more information about defined benefit plants, the division of risk between group companies (including non-consolidated subsidiaries), see Note 22, “Provisions for pensions and similar obligations,” from page 211 onward

For more information on the members of the Board of Executive Directors and the Supervisory Board, see Management and Supervisory Boards and Compensation Report from page 137 onward

33 Services provided by the external auditor

BASF Group companies have used the following services from KPMG:

Million €	2017	2016
Annual audit	18.6	17.5
Thereof domestic	6.4	6.4
Audit-related services	0.4	0.6
Thereof domestic	0.1	0.3
Tax consultation services	0.2	0.1
Thereof domestic	0.1	–
Other services	0.1	0.3
Thereof domestic	–	0.3
Total	**19.3**	**18.5**

The services provided by the external auditor mainly include services for the annual audit, and to a lesser extent, confirmation services, tax consultation services and other services.

The line item annual audit related to expenses for the audit of the Consolidated Financial Statements of the BASF Group as well as the legally required financial statements of BASF SE and its consolidated subsidiary companies and joint operations. Tax consultation services pertained especially to the fees for the finalization of unfiled tax returns for companies acquired in 2016. Fees for other services primarily included project-related audits in connection with regulatory demands as well as other confirmation services.

34 Declaration of Conformity with the German Corporate Governance Code

Declaration pursuant to section 161 AktG (Stock Corporation Act)

The annual Declaration of Conformity with the German Governance Code according to section 161 of the German Stock Corporation Act was signed by the Board of Executive Directors and the Supervisory Board of BASF SE in December 2017, and is published online.

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