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CONSOLIDATED FINANCIAL STATEMENTS

Covestro Group Consolidated Income Statement

	Note	2017[1]	2018
		€ million	€ million
Net sales	**6**	**14,138**	**14,616**
Cost of goods sold		(9,308)	(9,918)
Gross profit		**4,830**	**4,698**
Selling expenses		(1,352)	(1,408)
Research and development expenses		(274)	(276)
General administration expenses		(481)	(491)
Other operating income	7	145	123
Other operating expenses	8	(60)	(66)
EBIT[2]		**2,808**	**2,580**
Equity-method loss		(23)	(22)
Result from other affiliated companies		–	1
Interest income		21	35
Interest expense		(120)	(82)
Other financial result		(28)	(36)
Financial result	**10**	**(150)**	**(104)**
Income before income taxes		**2,658**	**2,476**
Income taxes	11	(641)	(647)
Income after income taxes		**2,017**	**1,829**
of which attributable to noncontrolling interest		8	6
of which attributable to Covestro AG stockholders (net income)		2,009	1,823
		€	€
Basic earnings per share[3]	**12**	**9.93**	**9.46**
Diluted earnings per share[3]	**12**	**9.93**	**9.46**

[1] Reference information has not been restated, see note 2
[2] EBIT: income after income taxes plus financial result and income tax expense
[3] Weighted average number of outstanding no-par voting shares of Covestro AG in issue: 192,768,826 (previous year: 202,396,416)

Covestro Group Consolidated Statement of Comprehensive Income

	Note	2017[1]	2018
		€ million	€ million
Income after income taxes		**2,017**	**1,829**
Remeasurements to the net defined benefit liability for post-employment benefit plans	20	(215)	(198)
Income taxes	11	33	45
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		**(182)**	**(153)**
Changes in fair values of equity instruments	24	–	1
Income taxes	11	–	–
Other comprehensive income from equity instruments		–	1
Other comprehensive income that will not be reclassified subsequently to profit or loss		**(182)**	**(152)**
Changes in fair values of financial assets	24	1	–
Reclassified to profit or loss		–	–
Income taxes	11	–	–
Other comprehensive income from financial assets		**1**	**–**
Change in exchange differences recognized on translation of operations outside the eurozone		(270)	72
Reclassified to profit or loss		–	–
Other comprehensive income from exchange differences		**(270)**	**72**
Other comprehensive income that may be reclassified subsequently to profit or loss		**(269)**	**72**
Total other comprehensive income[2]		**(451)**	**(80)**
of which attributable to noncontrolling interest		(4)	2
of which attributable to Covestro AG stockholders		(447)	(82)
Total comprehensive income		**1,566**	**1,749**
of which attributable to noncontrolling interest		4	8
of which attributable to Covestro AG stockholders		1,562	1,741

[1] Reference information has not been restated, see note 2
[2] Total change recognized outside profit or loss

Covestro Group Consolidated Statement of Financial Position

	Note	Dec. 31, 2017[1]	Dec. 31, 2018
		€ million	€ million
Noncurrent assets			
Goodwill	13	253	256
Other intangible assets	13	81	77
Property, plant and equipment	14	4,296	4,409
Investments accounted for using the equity method	15	208	214
Other financial assets	16	31	31
Other receivables[2]	18	35	32
Deferred taxes	11	702	782
		5,606	**5,801**
Current assets			
Inventories	17	1,913	2,213
Trade accounts receivable		1,882	1,786
Other financial assets	16	285	17
Other receivables[2]	18	281	346
Claims for income tax refunds		138	55
Cash and cash equivalents		1,232	865
Assets held for sale		4	1
		5,735	**5,283**
Total assets		**11,341**	**11,084**
Equity	**19**		
Capital stock of Covestro AG		201	183
Capital reserves of Covestro AG		4,767	3,480
Other reserves		367	1,679
Equity attributable to Covestro AG stockholders		**5,335**	**5,342**
Equity attributable to noncontrolling interest		30	33
		5,365	**5,375**
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	20	1,187	1,445
Other provisions	21	229	237
Financial liabilities	22	1,213	1,166
Income tax liabilities	11	74	107
Other liabilities[2]	23	21	18
Deferred taxes	11	161	153
		2,885	**3,126**
Current liabilities			
Other provisions	21	529	493
Financial liabilities	22	583	59
Trade accounts payable		1,618	1,637
Income tax liabilities	11	161	172
Other liabilities[2]	23	200	222
		3,091	**2,583**
Total equity and liabilities		**11,341**	**11,084**

[1] Reference information has not been restated, see note 2
[2] As of December 31, 2018, contain the contract assets and contract liabilities/refund liabilities respectively, resulting from IFRS 15

Covestro Group Consolidated Statement of Cash Flows

	Note	2017[1]	2018
		€ million	€ million
Income after income taxes		2,017	1,829
Income taxes		641	647
Financial result		150	104
Income taxes paid		(510)	(574)
Depreciation, amortization, impairment losses and impairment loss reversals		627	620
Change in pension provisions		17	26
(Gains)/losses on retirements of noncurrent assets		(45)	(45)
Decrease/(increase) in inventories		(306)	(308)
Decrease/(increase) in trade accounts receivable		(325)	110
(Decrease)/increase in trade accounts payable		156	31
Change in other working capital, other noncash items		(61)	(64)
Cash flows from operating activities	**27.1**	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets		(518)	(707)
Cash inflows from sales of property, plant, equipment and other assets		16	23
Cash inflows from divestitures		47	66
Cash outflows for noncurrent financial assets		(30)	(20)
Cash inflows from noncurrent financial assets		1	1
Cash outflows for acquisitions less acquired cash		(4)	–
Interest and dividends received		29	32
Cash inflows from/(outflows for) other current financial assets		(288)	259
Cash flows from investing activities	**27.2**	**(747)**	**(346)**
Reacquisition of treasury shares		(143)	(1,313)
Reissuance of treasury shares		–	8
Dividend payments and withholding tax on dividends		(274)	(441)
Issuances of debt		244	64
Retirements of debt		(330)	(646)
Interest paid		(131)	(74)
Cash flows from financing activities	**27.3**	**(634)**	**(2,402)**
Change in cash and cash equivalents due to business activities		**980**	**(372)**
Cash and cash equivalents at beginning of year		**267**	**1,232**
Change in cash and cash equivalents due to exchange rate movements		(15)	5
Cash and cash equivalents at end of year		**1,232**	**865**

[1] Reference information has not been restated, see note 2

Covestro Group Consolidated Statement of Changes in Equity

	Capital stock of Covestro AG	Capital reserves of Covestro AG	Retained earnings incl. total income
	€ million	€ million	€ million
Dec. 31, 2016[1]	**203**	**4,908**	**(1,441)**
Reacquisition of treasury shares	(2)	(141)	
Dividend payments			(273)
Income after income taxes			2,009
Other comprehensive income			(182)
Total comprehensive income			**1,827**
Dec. 31, 2017[1]	**201**	**4,767**	**113**
thereof treasury shares	(2)	(141)	
Dec. 31, 2017[1]	**201**	**4,767**	**113**
Changes in accounting for initial application of new IFRS			8
Jan. 1, 2018 adjusted	201	4,767	121
Reacquisition and redemption of treasury shares	(18)	(1,295)	
Issuance of treasury shares		8	
Dividend payments			(436)
Income after income taxes			1,823
Other comprehensive income			(152)
Total comprehensive income			**1,671**
Dec. 31, 2018	**183**	**3,480**	**1,356**
thereof treasury shares	–	(15)	

[1] Reference information has not been restated, see note 2

Accumulated other comprehensive income				
Currency translation	**Fair value of financial assets**	**Equity attributable to Covestro AG stockholders**	**Equity attributable to noncontrolling interest**	**Equity**
€ million	€ million	€ million	€ million	€ million
519	**–**	**4,189**	**27**	**4,216**
		(143)		(143)
		(273)	(1)	(274)
		2,009	8	2,017
(266)	1	(447)	(4)	(451)
(266)	**1**	**1,562**	**4**	**1,566**
253	**1**	**5,335**	**30**	**5,365**
		(143)		(143)
253	**1**	**5,335**	**30**	**5,365**
	(1)	7		7
253	–	5,342	30	5,372
		(1,313)		(1,313)
		8		8
		(436)	(5)	(441)
		1,823	6	1,829
70	–	(82)	2	(80)
70	**–**	**1,741**	**8**	**1,749**
323	**–**	**5,342**	**33**	**5,375**
		(15)		(15)

Notes to the Consolidated Financial Statements of the Covestro Group

Principles and Methods

1. General Information

Covestro AG (registered at the district trade register, or Amtsgericht, for Cologne, number: HRB 85281) is a stock exchange-listed corporation headquartered at Kaiser-Wilhelm-Allee 60, 51373 Leverkusen (Germany). The consolidated financial statements of Covestro AG for the period ended December 31, 2018, cover Covestro AG and its subsidiaries, joint arrangements and associated companies. They have been prepared according to the International Financial Reporting Standards (IFRSs) of the International Accounting Standards Board (IASB), London (United Kingdom), as endorsed by the European Union (EU) and in effect at the reporting date, the Interpretations (IFRICs) of the IFRS Interpretations Committee (IFRS IC) and the Interpretations published by the Standing Interpretations Committee (SIC), as well as the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB) for the exempting IFRS consolidated financial statements. Reference information for previous periods has not been restated for new accounting standards, see note 2.

The declaration pertaining to the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) has been issued and made available to stockholders. It is reproduced in section 22 "Declaration on Corporate Governance" of the management report.

If certain items in the income statement, statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity of the Covestro Group are condensed for the sake of clarity, this is explained in the notes. The income statement has been prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are classified as current if they mature within one year or within the Group's normal business cycle or are held for sale. Inventories and trade accounts receivable and payable are consistently presented as current. Deferred tax assets, deferred tax liabilities and pension provisions are consistently presented as noncurrent.

The consolidated financial statements are drawn up in euros. Amounts are stated in millions of euros (€ million) except where otherwise indicated.

Exchange rates

In the reporting period, the following exchange rates were used for the major currencies of relevance to the Covestro Group:

Closing Rates for Major Currencies

		Closing Rates	
€1/		2017	2018
BRL	Brazil	3.97	4.44
CNY	China	7.81	7.87
HKD	Hong Kong	9.37	8.97
INR	India	76.61	79.73
JPY	Japan	135.01	125.85
MXN	Mexico	23.66	22.49
USD	United States	1.20	1.15

Average Rates for Major Currencies

		Average Rates	
€1/		2017	2018
BRL	Brazil	3.59	4.29
CNY	China	7.61	7.81
HKD	Hong Kong	8.78	9.25
INR	India	73.38	80.64
JPY	Japan	126.39	130.40
MXN	Mexico	21.28	22.70
USD	United States	1.13	1.18

2. Effects of New Financial Reporting Standards

2.1 Financial Reporting Standards Applied for the First Time in the Reporting Period

IFRS Pronouncement (published on)	Title	Effective for annual periods beginning on or after
IFRS 15 (May 28, 2014)	Revenue from Contracts with Customers	January 1, 2018
Amendments to IFRS 15 (September 11, 2015)	Effective Date of IFRS 15	January 1, 2018
Amendments to IFRS 15 (April 12, 2016)	Clarifications to IFRS 15 – Revenue from Contracts with Customers	January 1, 2018
IFRS 9 (July 24, 2014)	Financial Instruments	January 1, 2018
Amendments to IFRS 2 (June 20, 2016)	Classification and Measurement of Share-based Payment Transactions	January 1, 2018
Amendments to IFRS 4 (September 12, 2016)	Applying IFRS 9 – Financial Instruments with IFRS 4 Insurance Contracts	January 1, 2018
Amendments to IAS 40 (December 8, 2016)	Transfers of Investment Property	January 1, 2018
IFRIC Interpretation 22 (December 8, 2016)	Foreign Currency Transactions and Advance Consideration	January 1, 2018
Annual Improvements to IFRSs (December 8, 2016)	2014–2016 Cycle (IFRS 1, IAS 28)	January 1, 2018

In the **"Annual Improvements to IFRS Standards 2014–2016 Cycle"** published by the International Accounting Standards Board (IASB) on December 8, 2016, only the amendments to IFRS 12 (Disclosure of Interests in Other Entities) had to be applied for the first time as of January 1, 2017. By contrast, the amendments to IFRS 1 (First-time Adoption of International Financial Reporting Standards) and IAS 28 (Investments in Associates and Joint Ventures) were required to be applied for the first time as of January 1, 2018.

With the exception of IFRS 9 and IFRS 15, initial application of the standards listed in the table had little or no material impact on the presentation of the net assets, financial position, and results of operations. The impact of the initial application of **IFRS 9 (Financial Instruments)** and **IFRS 15 (Revenue from Contracts with Customers)** as well as **Amendments to IFRS 15 (Effective Date of IFRS 15** and **Clarifications to IFRS 15)** is outlined below.

The following table shows the effect of initial application of IFRS 9 and IFRS 15 on the items in the consolidated statement of financial position as of January 1, 2018:

Adjustments to the Relevant Items on the Consolidated Statement of Financial Position as of January 1, 2018

	Dec. 31, 2017	Effects of IFRS 9	Effects of IFRS 15	Jan. 1, 2018
	€ million	€ million	€ million	€ million
Noncurrent assets				
Other financial assets	31	(1)	–	30
Other receivables[1]	35	2	–	37
Deferred taxes	702	2	2	706
Current assets				
Inventories	1,913	–	(33)	1,880
Trade accounts receivable	1,882	(10)	(8)	1,864
Other receivables[1]	281	–	59	340
Equity				
Other reserves	367	(7)	14	374
Noncurrent liabilities				
Deferred taxes	161	–	6	167
Current liabilities				
Other provisions	529	–	(28)	501
Trade accounts payable	1,618	–	(37)	1,581
Other liabilities[1]	200	–	65	265

[1] Contain the contract assets and contract liabilities/refund liabilities respectively, resulting from IFRS 15

Initial application of IFRS 9

The new financial reporting standard **IFRS 9 (Financial Instruments)** has been applied since January 1, 2018. It replaces the previous regulations on financial instruments. The new standard contains rules on classifying and measuring financial assets and financial liabilities. In contrast to IAS 39, IFRS 9 defines three instead of four measurement categories for financial assets, with classification based partly on the entity's business model and partly on the characteristics of the contractual cash flows from the respective financial asset. In the case of equity investments that are not held for trading, an entity may irrevocably opt at initial recognition to recognize future changes in their fair value outside profit or loss in the statement of comprehensive income. Furthermore, the hedge accounting rules were revised with the aim of achieving a closer link between risk management activities and the reporting of hedging instruments in the financial statements. This involves additional disclosures in the notes. IFRS 9 also includes new rules for the recognition of impairments on financial instruments. This new impairment model is based on the principle of accounting for expected losses.

In accordance with the transition requirements, IFRS 9 was applied retrospectively without restatement for reference periods. The cumulative effect of initially applying the standard as of January 1, 2018, has been recognized outside of profit or loss in retained earnings. The data for the reference periods are presented on the basis of the previous rules.

The new impairment rules result in an increase in provisions for default on financial assets due to the inclusion of expected credit losses. The following table provides a reconciliation from impairment losses based on the IAS 39 rules to the new impairment losses based on IFRS 9:

Impairment Losses on Financial Assets

	€ million
Impairment losses as of December 31, 2017 (based on IAS 39)	**(41)**
Additional impairment losses included in retained earnings	(10)
Impairment losses as of January 1, 2018 (based on IFRS 9)	**(51)**

Additional impairment losses were recognized almost exclusively for trade accounts receivable. The additional impairments calculated for cash and cash equivalents, financial assets, receivables under lease agreements, contract assets as defined in IFRS 15, and other financial assets are not material.

As a result of the introduction of the new classification and measurement rules, financial assets were allocated to the new IFRS 9 measurement categories on the basis of their business model and the underlying cash flow characteristics of the respective financial asset. The following table shows a reconciliation from the original measurement categories and carrying amounts of financial assets based on IAS 39 to the new measurement categories and carrying amounts based on IFRS 9:

Measurement Categories According to IAS 39 and IFRS 9 and Carrying Amounts of Financial Instruments by Categories

	Original measurement category under IAS 39	New measurement category under IFRS 9	Original carrying amount under IAS 39 Dec. 31, 2017	New carrying amount under IFRS 9 Jan. 1, 2018
			€ million	€ million
Financial assets				
Trade accounts receivable	Loans and receivables	Financial assets carried at amortized cost	1,882	1,872
Other financial assets				
Loans	Loans and receivables	Financial assets carried at amortized cost	279	279
Derivatives that do not qualify for hedge accounting	Financial assets held for trading	Financial assets carried at fair value through profit or loss	23	23
Receivables under lease agreements[1]	–	–	8	8
Other investments	Available-for-sale financial assets	Financial assets carried at fair value through other comprehensive income	5	6
Other receivables	Loans and receivables	Financial assets carried at amortized cost	34	34
Cash and cash equivalents	Loans and receivables	Financial assets carried at amortized cost	1,232	1,232
Total financial assets			**3,463**	**3,454**

[1] Measurement in accordance with IAS 17

The €10 million difference in the carrying amounts of trade accounts receivable results from remeasurement due to the introduction of the new impairment model.

For equity investments that were not held for trading as of January 1, 2018, Covestro applies the option of recognizing changes in fair value in other comprehensive income without transfer from equity on retirement. The €1 million increase in the carrying amount of the relevant other investments results from reclassification from the IAS 39 valuation category “available-for-sale financial assets” to the new IFRS 9 category “at fair value through other comprehensive income”. While the other investments were carried at amortized cost under IAS 39, they are now recognized in the statement of financial position at fair value as stipulated by IFRS 9.

Trade accounts receivable, other financial assets, other receivables, and cash and cash equivalents that were classified as loans and receivables under IAS 39 are now classified at amortized cost under IFRS 9, because the cash flow condition is fulfilled, and Covestro holds these financial assets with the objective of collecting the contractual cash flows.

Subsidiaries that are not consolidated due to their immateriality for the consolidated financial statements and which were previously classified as available-for-sale financial instruments and carried at amortized cost in accordance with IAS 39 are recognized in other receivables from fiscal 2018 onward. The corresponding carrying amount of €2 million was reclassified as of January 1, 2018.

The initial application of IFRS 9 did not have any impact on the classification and measurement of financial liabilities.

The fundamental changes in hedge accounting did not lead to any reclassification effects because Covestro did not have any designated hedges pursuant to IFRS 9 either at the date of initial recognition or on the reporting date.

Initial application of IFRS 15

On May 28, 2014, the IASB issued **IFRS 15 (Revenue from Contracts with Customers)**. An amendment (Effective Date of IFRS 15) was published on September 11, 2015, and clarifications (Clarifications to IFRS 15 – Revenue from Contracts with Customers) were published on April 12, 2016. IFRS 15 replaces IAS 11 (Construction Contracts), IAS 18 (Revenue), IFRIC 13 (Customer Loyalty Programmes), IFRIC 15 (Agreements for the Construction of Real Estate), IFRIC 18 (Transfers of Assets from Customers), and SIC-31 (Revenue – Barter Transactions Involving Advertising Services). In principle, IFRS 15 specifies that an entity must recognize the expected consideration for the transfer of goods or services as sales as soon as control over the goods passes to the customer or the services are rendered. To comply with this, recognizing sales involves the following five steps: In step one, the contract with the customer is identified. In step two, the distinct performance obligations in the contract are identified. In step three, the transaction price is determined. In step four, this transaction price is allocated to the distinct performance obligations. In step five, sales are recognized either over time or at a point in time, depending when control is transferred. As a result of these principles, IFRS 15 may affect the timing of revenue recognition, among other things. IFRS 15 also results in new items in the statement of financial position, such as contract assets, contract liabilities, and refund liabilities, and requires additional disclosures in the notes to the financial statements.

IFRS 15 was applied as of January 1, 2018, using the modified retrospective approach. The positive cumulative effect of €14 million resulting from initial application of the standard was recognized in equity as of January 1, 2018. The reference periods were not restated. At the date of initial application, IFRS 15 was applied retrospectively to contracts that had not yet been completed. Where contracts were modified before initial application of the standard, the aggregate effect of such modifications was recognized. The use of this practical expedient is not expected to have any material effect.

The application of IFRS 15 resulted in changes to the following issues at Covestro:

- Consignment warehousing agreements: In line with the control concept in IFRS 15, under certain agreements the customer obtains control of the goods when they are delivered to the consignment warehouse. As a consequence, the corresponding sales are realized at this point in time and not, as in the past, upon documented withdrawal.

- Transportation clauses: Under certain transportation clauses agreed with customers, Covestro is responsible for transportation of the goods sold. For some of these clauses, the control concept in IFRS 15 means that control over the goods sold is only transferred to the customer at the end of the transportation or freight service. Therefore, the transportation or freight service does not constitute a separate performance obligation. The transfer of control at the end of the transportation or freight services means that under some transportation clauses all sales for the transaction are recognized at a later point in time than in the past. In addition, under some transportation clauses, Covestro provides transportation or freight services in connection with the delivery of the goods sold after the customer has obtained control over these goods. In general, the sales allocated to these transportation or freight services are recognized at the time of performance of the service.

- Provisional prices: Under some contracts with customers, the final prices are only determined after control over the respective products has passed to the customer. Provisional prices are billed at the time of delivery. In view of the uncertainty about the resulting variable consideration at this point in time, the amount of the corresponding sales is initially estimated observing the relevant rules constraining estimates of variable consideration.

- Licenses: A contractual right to use intellectual property is transferred to some customers. The consideration takes the form, among other things, of usage-based royalties, for which a minimum annual amount is agreed for the term of the contract. When IFRS 15 was initially applied, the minimum outstanding royalties that Covestro will receive were taken into account.

- Customer-specific products: Certain products are only sold to one customer. Covestro has no alternative use for some of these products. Insofar as Covestro has an enforceable right to receive payment for completed performance, sales are recognized on the basis of progress towards satisfaction of the performance obligation and thus earlier than in the past.

In addition, the application of IFRS 15 results in changes to the presentation of the financial statements.

The adjustments to all items in the income statement and statement of financial position resulting from IFRS 15 compared with the application of the standards and interpretations replaced by IFRS 15 are presented below, together with an explanation of the reasons. There are no material effects on the statement of comprehensive income or the statement of cash flows.

Effects on the Income Statement in the year 2018

	Full year 2018 according to IAS 11 / IAS 18	Effects of IFRS 15	Full year 2018 according to IFRS 15
	€ million	€ million	€ million
Net Sales	**14,627**	**(11)**	**14,616**
Cost of goods sold	(9,922)	4	(9,918)
Gross profit	**4,705**	**(7)**	**4,698**
Selling expenses	(1,408)	–	(1,408)
Research and development expenses	(276)	–	(276)
General administration expenses	(491)	–	(491)
Other operating income	123	–	123
Other operating expenses	(66)	–	(66)
EBIT	**2,587**	**(7)**	**2,580**
Equity-method loss	(22)	–	(22)
Result from other affiliated companies	1	–	1
Interest income	35	–	35
Interest expense	(82)	–	(82)
Other financial result	(36)	–	(36)
Financial result	**(104)**	**–**	**(104)**
Income before income taxes	**2,483**	**(7)**	**2,476**
Income taxes	(649)	2	(647)
Income after income taxes	**1,834**	**(5)**	**1,829**
of which attributable to noncontrolling interest	6	–	6
of which attributable to Covestro AG stockholders (net income)	1,828	(5)	1,823
	€	€	€
Basic earnings per share	**9.49**	**(0.03)**	**9.46**
Diluted earnings per share	**9.49**	**(0.03)**	**9.46**

The reduction in sales is mainly attributable to licenses and consignment warehousing agreements. Further decreases in sales are due to transportation clauses. Countereffects result from provisional prices. The cost of goods sold was lower owing to transportation clauses and consignment warehousing agreements. The aforementioned effects result in lower EBIT and earnings per share overall.

Effects on the Consolidated Statement of Financial Position in the year 2018

	Dec. 31, 2018 according to IAS 11 / IAS 18	Effects of IFRS 15	Dec. 31, 2018 according to IFRS 15
	€ million	€ million	€ million
Noncurrent assets			
Goodwill	256	–	256
Other intangible assets	77	–	77
Property, plant and equipment	4,409	–	4,409
Investments accounted for using the equity method	214	–	214
Other financial assets	31	–	31
Other receivables[1]	32	–	32
Deferred taxes	777	5	782
	5,796	**5**	**5,801**
Current assets			
Inventories	2,242	(29)	2,213
Trade accounts receivable	1,796	(10)	1,786
Other financial assets	17	–	17
Other receivables[1]	294	52	346
Claims for income tax refunds	55	–	55
Cash and cash equivalents	865	–	865
Assets held for sale	1	–	1
	5,270	**13**	**5,283**
Total assets	**11,066**	**18**	**11,084**
Equity			
Capital stock of Covestro AG	183	–	183
Capital reserves of Covestro AG	3,480	–	3,480
Other reserves	1,670	9	1,679
Equity attributable to Covestro AG stockholders	**5,333**	**9**	**5,342**
Equity attributable to noncontrolling interest	33	–	33
	5,366	**9**	**5,375**
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	1,445	–	1,445
Other provisions	238	(1)	237
Financial liabilities	1,166	–	1,166
Income tax liabilities	107	–	107
Other liabilities[1]	17	1	18
Deferred taxes	146	7	153
	3,119	**7**	**3,126**
Current liabilities			
Other provisions	523	(30)	493
Financial liabilities	59	–	59
Trade accounts payable	1,664	(27)	1,637
Income tax liabilities	172	–	172
Other liabilities[1]	163	59	222
	2,581	**2**	**2,583**
Total equity and liabilities	**11,066**	**18**	**11,084**

[1] Contain the contract assets and contract liabilities/refund liabilities respectively, resulting from IFRS 15

The principal reasons for the above adjustments to the amounts reported in the statement of financial position are as follows:

- Inventories: The decline is mainly attributable to consignment warehousing agreements. This effect is compensated in part by an increase from transportation clauses.
- Trade accounts receivable: The decline is mainly attributable to transportation clauses.
- Other receivables: The increase in contract assets, which are included in other receivables, is mainly attributable to consignment warehousing agreements.
- Other reserves: The increase is mainly attributable to consignment warehousing agreements and also licenses. This is offset in part by a decline attributable to transportation clauses and provisional prices.
- Other provisions: The decline reflects the reclassification of amounts that Covestro has received or will receive from customers for which refunds are anticipated. These mainly comprise amounts for rebates. As a result of the application of IFRS 15, these are included in refund liabilities within other liabilities.
- Trade accounts payable: The decline is attributable to the reclassification of advance payments received from customers for future product deliveries to contract liabilities, which are included in other liabilities.
- Other liabilities: The increase is mainly attributable to reclassifications from other provisions to refund liabilities and trade accounts payable to contract liabilities, as described above.

2.2 Published Financial Reporting Standards That Have Not Yet Been Applied

The IASB and the IFRS IC have issued the following standards, amendments to standards, and interpretations whose application has not yet been mandatory to date. The application of these IFRS standards is conditional upon their endorsement by the European Union.

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Endorsed by the EU		
IFRS 16 (January 13, 2016)	Leases	January 1, 2019
IFRIC Interpretation 23 (June 7, 2017)	Uncertainty over Income Tax Treatments	January 1, 2019
Amendments to IFRS 9 (October 12, 2017)	Prepayment Features with Negative Compensation	January 1, 2019
Amendments to IAS 28 (October 12, 2017)	Long-term Interests in Associates and Joint Ventures	January 1, 2019
Not yet endorsed by the EU		
Annual Improvements to IFRSs (December 12, 2017)	2015–2017 Cycle	January 1, 2019
Amendments to IAS 19 (February 7, 2018)	Plan Amendment, Curtailment or Settlement	January 1, 2019
Amendments to IFRS Standards (March 29, 2018)	References to the Conceptual Framework in IFRS Standards	January 1, 2020
Amendments to IFRS 3 (October 22, 2018)	Definition of a Business	January 1, 2020
Amendments to IAS 1 and IAS 8 (October 31, 2018)	Definition of Material	January 1, 2020
IFRS 17 (May 18, 2017)	Insurance Contracts	January 1, 2021

The date of initial application of the standards not yet endorsed by the EU is deemed to be the effective date stipulated by the IASB. Because the annual improvements to IFRSs and the amendments to IAS 19 outlined in the table above have not yet been endorsed by the EU, Covestro did not yet apply these changes as of January 1, 2019.

The financial reporting standards whose application will or could influence the presentation of the Covestro Group's net assets, financial position, and results of operations are outlined in greater detail below. As far as the following sections do not contain any statement to the potential effects, the Covestro Group is currently evaluating the actual impact of these standards.

On January 13, 2016, the IASB published **IFRS 16 (Leases)**, a new standard for recognizing leases which replaces IAS 17 (Leases), IFRIC 4 (Determining whether an Arrangement Contains a Lease), SIC-15 (Operating Leases – Incentives), and SIC-27 (Evaluating the Substance of Transactions Involving the Legal Form of a Lease). While IFRS 16, which was endorsed by the European Union on October 31, 2017, basically retains the previous accounting rules for lessors, only one accounting model is now intended for use by lessees. This requires a lessee to recognize a right-of-use asset and a corresponding lease liability for each lease. The right-of-use asset reflects a lessee's right to use the asset being leased. The lease liability represents the lessee's obligation to make contractual lease payments. Exemptions are available for leases with a term of less than 12 months or those with a low-value underlying asset.

The new lease accounting rules must be applied for the first time for annual periods beginning on or after January 1, 2019. Covestro will transition its reporting in accordance with IFRS 16 using the modified retrospective approach during the first quarter of 2019. Comparative information for the 2018 fiscal year will not be restated. The IFRS 16 transition rules stipulate that no new assessment must be made at the date of initial application as to whether an existing agreement meets the definition of a lease according to IFRS 16. Instead, existing assessments based on IAS 17 in conjunction with IFRIC 4 may continue to be applied. Covestro will make use of this exemption when applying IFRS 16 for the first time.

Upon initial application of IFRS 16, the right-of-use assets will generally be recognized by Covestro in the amount of the corresponding lease liabilities. In specific cases, the right-of-use asset will be adjusted by the amount of the deferred advance payments or liabilities recognized in the financial statements as of the end of fiscal 2018. The corresponding lease liability will be measured using the incremental borrowing rate at the date of initial application. In addition, Covestro will take advantage of the optional exemptions regarding short-term leases and leases of low-value assets.

The introduction of IFRS 16 from the perspective of a lessee will materially affect Covestro's net assets, financial position and results of operations. Recognizing future payment obligations as right-of-use assets and lease liabilities in the statement of financial position is expected to increase noncurrent assets and noncurrent liabilities by an amount in the mid-three-digit millions of euros. This is mainly due to the leasing of land and real estate, production-related infrastructure, as well as street vehicles and rail wagons. The expected increase in total assets and liabilities will reduce the equity ratio and increase net financial debt. No material effect on retained earnings is anticipated from initial application of this standard.

In the future, the amortization of the right-of-use assets and the interest expense from the interest cost of lease liabilities will be recognized in the income statement instead of reporting expenses from operating leases, as in the past. This substitution is expected to improve EBITDA by an amount in the mid- to high-double-digit millions of euros and will also likely increase EBIT by an amount in the low-double-digit millions of euros. No material effects on net income are anticipated.

Under IFRS 16, the actual payments from leases will generally be reported in the statement of cash flows going forward, in cash flows from financing activities as repayment of the lease liability or cash interest expense. As a result, the application of the standard will improve operating cash flows and free operating cash flows and, conversely, will result in decrease in cash flows from financing activities.

On October 12, 2017, the IASB also issued amendments to IFRS 9 (Financial Instruments) under the title **"Prepayment Features with Negative Compensation"**. The amendments extend the rules of IFRS 9 to the extent that prepayable financial assets can be measured at amortized cost or fair value through other comprehensive income, also in the case of reasonable negative compensation payments. Furthermore, the amendments contain clarification with regard to reporting on modifications to financial liabilities. On October 12, 2017, the IASB also issued amendments to IAS 28 (Investments in Associates and Joint Ventures) under the title **"Long-term Interests in Associates and Joint Ventures"**. The amendments clarify that IFRS 9 (Financial Instruments) shall be applied to long-term interests, which are part of the net investment in an associate or a joint venture to which the equity method is not applied. The application of the amendments to IFRS 9 (Financial Instruments) and to IAS 28 (Investments in Associates and Joint Ventures) does not materially affect Covestro's net assets, financial position and results of operations at this time. Nevertheless, the presentation of its net assets, financial position and results of operations could be affected depending on future arrangements and transactions.

On December 12, 2017, the IASB published **"Annual Improvements to IFRS Standards 2015–2017 Cycle"**. The Annual Improvements include clarifications of IFRS 3 (Business Combinations), IFRS 11 (Joint Arrangements), IAS 12 (Income Taxes), and IAS 23 (Borrowing Costs). The amendments to IFRS 3 clarify that interests in a business previously held in a joint operation must be remeasured when an entity obtains control of this business. In contrast, the amendments to IFRS 11 state that when an entity obtains joint control of a business held to date in a joint operation, the entity does not remeasure previously held interests in that business. Among other things, the amendments to IAS 12 stipulate that the tax consequences of accounting for dividend payments must be recognized in the same way as the related transaction. The clarifications with regard to IAS 23 mainly explain that the capitalization of borrowing costs for a qualified asset ceases when the asset is ready for its intended use or sale. Accordingly, any specific borrowing for this asset outstanding after that time becomes part of the funds that an entity borrows generally which are the basis for calculating a capitalization rate according to IAS 23.

On February 7, 2018, the IASB published changes to IAS 19 (Employee Benefits) under the title **"Plan Amendment, Curtailment or Settlement"**. With these changes, the IASB clarified in particular that in the event of an amendment, curtailment or settlement of a plan, not only must the net defined benefit liability or asset of the defined benefit plan be remeasured, the current service cost and the net interest for the period remaining after the amendment, curtailment or settlement must also be calculated using the new assumptions.

The IASB published amendments to the IFRSs entitled **"References to the Conceptual Framework in IFRS Standards"** on March 29, 2018. The amendments update quotes and references to the new Conceptual Framework 2018 in the standards and specify the version of the Conceptual Framework to which they refer.

On October 22, 2018, the IASB issued amendments to IFRS 3 (Business Combinations) under the title **"Definition of a Business"**. The amendments specify the definition of a business to draw a clearer line between the acquisition of a business and the purchase of a group of assets. Revised criteria, additional guidelines, and examples as well as an optional concentration test are intended to simplify the process of distinguishing between a business and a group of assets.

On October 31, 2018, the IASB published amendments to IAS 1 (Presentation of Financial Statements) and IAS 8 (Accounting policies, changes in accounting estimates and errors) under the title **"Definition of Material"**. The amendments clarify the definition of materiality and harmonize it across standards.

On May 18, 2017, the IASB issued **IFRS 17 (Insurance Contracts)**. IFRS 17 regulates the recognition, measurement and presentation of issued insurance contracts as well as the necessary disclosures in the notes. In addition, IFRS 17 requires the application of similar principles in the case of existing reinsurance contracts held and, insofar as insurance contracts are issued, also issued investment contracts with a discretionary participation feature. IFRS 17 will replace IFRS 4 (Insurance Contracts).

3. Accounting Policies and Valuation Principles

Covestro's consolidated financial statements are based on the principle of the historical cost of acquisition, construction or production. Exceptions are items measured at fair value, such as certain financial assets and derivatives.

In preparing the consolidated financial statements, Covestro management has to make assumptions and estimates to a certain extent that may substantially impact the presentation of the Covestro Group's net assets, financial position, and results of operations and could deviate from the actual results. Such estimates, assumptions, and the exercise of discretion mainly relate to the following areas: the useful life of noncurrent assets, the discounted cash flows used for impairment testing to be conducted at least annually, purchase price allocations, the assessment of the amount of deferred tax assets recoverable in future periods as well as the recognition of provisions, for example for litigation-related expenses, pensions and other employee benefits, taxes, environmental compliance and remediation costs, and product liability. In addition, Covestro's management must decide which information is relevant for readers of the IFRS consolidated financial statements and should be included in the notes. Information about exercising discretion in the application of accounting policies that most significantly affect the amounts reported in the consolidated financial statements, and about estimates and assumptions, are disclosed in the following notes.

Consolidation

As of December 31, 2018, the direct and indirect subsidiaries of Covestro AG were fully consolidated in accordance with the principles of IFRS 10 (Consolidated Financial Statements). In addition, joint arrangements as defined by IFRS 11 (Joint Arrangements) were classified as joint operations and consolidated proportionately in the consolidated financial statements or classified as joint ventures and accounted for in the same way as associated companies using the equity method in accordance with IAS 28 (Investments in Associates and Joint Ventures). For additional information, please see note 5.1.

Joint operations and joint ventures

Joint operations and joint ventures are based on joint arrangements. A joint arrangement is deemed to exist if Covestro AG, through a contractual agreement, indirectly or directly jointly controls an activity together with one or more third parties. Joint control is only deemed to exist if decisions regarding the relevant activities require the unanimous consent of the parties sharing control.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets attributable to the arrangement and obligations with regard to the liabilities attributable to the arrangement. The Covestro Group recognizes the share of assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with its rights and obligations.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method.

Associates over which Covestro AG has significant influence, directly or indirectly, generally through an ownership interest between 20% and 50%, are also accounted for using the equity method.

Currency translation

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. The majority of consolidated companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the separate financial statements of the foreign companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates. Related exchange differences are recognized in profit or loss and recorded as exchange gains or losses under other financial result.

In the consolidated financial statements, the assets and liabilities of Covestro companies outside the eurozone are translated into euros at closing rates at the start and end of the reporting period, while income and expense items and cash flows are translated into euros at average rates. Equity items are translated at historical rates.

Net sales and other operating income

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income.

In principle, the amount of consideration from a contract with a customer to which Covestro expects to be entitled in exchange for the transfer of goods or services is recognized as sales when the customer obtains control of the corresponding goods or services.

Sales are generated primarily from the sale of chemical products. In most cases, control over these products is transferred to the customer at a point in time.

Depending on the contractual agreements made and transportation clauses agreed upon with the customer, in the majority of cases control is transferred to the customer upon delivery at the place of destination, furthermore at the point in time of collection by the customer or upon handover to the freight carrier. In some cases, sales are made through consignment warehouses in which customers primarily obtain control over the delivered goods upon delivery to the consignment warehouse.

In principle, control is considered to be transferred when the customer can direct the use of the product to be delivered and obtain substantially all of the remaining benefits from the product, while this is no longer possible for Covestro.

Determining the point in time of the transfer of control involves considering additional indicators. In particular, it is considered at which point in time Covestro has a present right to payment for the product and when physical possession of the product or, in a broader sense, the possibility of sole access to the product, is transferred to the customer. Depending on the transportation clauses, the possibility of sole access to the product may be transferred even prior to arrival or physical handover of the product to the customer. Furthermore, the point in time when the legal title passes to the customer is also considered to the extent that it constitutes more than a protective right. The point in time when the significant rewards and risks of ownership of a product are transferred to the customer is usually linked closely with the aforementioned indicators and is therefore considered with these. Based on experience, it is assumed that products sold fulfill the agreed-upon specifications, thus acceptance by the customer is an indicator that does not generally affect the point in time at which control is transferred.

As a result, depending on the contractual agreements made and transportation clauses agreed upon with the customer, the point in time of the transfer of control is determined.

In the case of products sold through a consignment warehouse, the customer generally obtains physical possession of this product upon delivery to the consignment warehouse. In addition, the right to payment for the delivered goods generally arises upon delivery. To the extent that the other three indicators do not lead to a contrary conclusion, control of the products in the case of a sale through a consignment warehouse transfers to the customer upon delivery to the consignment warehouse. The corresponding sales are therefore realized at the time of delivery.

Certain products are only sold to one customer. Some of these customer-specific products have no alternative use for Covestro. Insofar as Covestro has an enforceable right to payment for performance completed to date, sales are recognized on the basis of progress towards complete satisfaction of the performance obligation. As a rule, control over an individual customer-specific product is considered to be transferred when the generally short production process is completed successfully and the product has been tested to confirm that the agreed-upon specifications have been met.

To the extent that, for certain types of performance obligations that are satisfied over time, there is a right to consideration in an amount that corresponds directly with the value of the performance provided by Covestro to date, revenue will normally be realized in the amount to which Covestro has a right to invoice.

Invoices are usually payable in 0 to 90 days. Contracts may contain early payment discounts or rebates. Rebates are generally retroactively granted sales- or volume-dependent rebates based on the sales or volume of a period customarily spanning up to 12 months. Some contracts include pricing formulas used to determine the billable price at the time of delivery. Moreover, the final prices for certain contracts with customers are not yet fixed at the time of transfer of control. Instead, provisional prices are billed initially.

Sales are recognized in the amount of the transaction price that Covestro is expected to receive. Sales do not include amounts collected on behalf of third parties (e.g. sales tax). Where consideration includes a variable component, for example due to the contract clauses described, this component of the consideration is estimated either based on the expected value method or the most likely amount. The method producing the best estimate is used in this case. However, variable consideration is only taken into account to the extent it is not constrained as defined by IFRS 15. Variable consideration is not constrained if it is highly probable that a significant reversal in the amount of sales will not occur when the corresponding uncertainty is subsequently resolved. The transaction price of a contract is allocated to the performance obligations therein using the relative stand-alone selling prices, which generally correspond to the agreed upon prices. If the conditions are met, variable amounts are completely allocated to individual performance obligations.

Refund liabilities result particularly from rebates granted and total the amount of the rebate expected to be refunded, which is calculated based on the methods described.

As a rule, no warranties are issued beyond normal warranties that products will fulfill the agreed-upon specifications.

In the case of contracts with customers, Covestro generally does not expect more than one year to pass between the transfer of a product to a customer and the payment thereof. As a result, the agreed consideration is not adjusted for significant financing components. When incremental costs of obtaining a contract arise, these are immediately recognized as expenses, if the potential amortization period is one year or less.

Research and development expenses

Research and development expenses are incurred in the Covestro Group for in-house research and development activities as well as research and development collaborations and alliances with third parties.

According to IFRSs, research costs cannot be capitalized. Development costs, on the other hand, must be capitalized according to closely defined conditions. An intangible asset must be recognized if there is reasonable certainty of receiving future cash flows that will cover an asset's carrying amount. Covestro's development projects are often subject to uncertainties, so the conditions for the capitalization of development costs are normally not satisfied. Each project or contract is reviewed to determine potential capitalization requirements.

Income taxes

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable or reimbursable under the statutory regulations in force, or already enacted in relation to future periods, at the end of the reporting period.

As a rule, deferred taxes are recognized in profit or loss. However, if deferred taxes relate to items recognized outside profit or loss in equity, they too are recognized outside profit or loss.

The probability that deferred tax assets resulting from temporary differences, tax credits or loss carryforwards can be utilized in the future is the subject of forecasts by the individual companies regarding the future earnings situation in the respective Covestro companies and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment or disposal of corresponding equity investments is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate equity according to IFRSs and the tax base of the carrying amount of the investment in the subsidiary.

The expected effects of uncertain tax positions are reflected at probable value in the consolidated financial statements.

Goodwill

Goodwill is not amortized. Its carrying amount is subjected to impairment testing annually or more often if there is any indication of possible impairment. Detailed explanations of impairment testing can be found under "Procedure used in global impairment testing and its impact". Once an impairment loss has been recognized on goodwill, it cannot be reversed in subsequent periods.

Other intangible assets

An "other intangible asset" is an identifiable nonmonetary asset without physical substance, other than goodwill (such as software or rights). Other intangible assets are recognized at the cost of acquisition or generation. Those with a determinable useful life are amortized accordingly on a straight-line basis over a period of up to 20 years, except where their actual depletion demands a different amortization pattern. Determination of the expected useful lives of other intangible assets is based on estimates of the period for which they will generate cash flows.

Property, plant and equipment

Property, plant and equipment are carried at the cost of acquisition or construction and depreciated by the straight-line method over the expected useful life. An impairment loss is recognized in addition if an asset's recoverable amount falls below its carrying amount.

If the construction phase or manufacturing process of property, plant or equipment extends over a period of 12 months or more, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Costs for regular, comprehensive maintenance work (such as the major overhaul of a technical facility) are capitalized as a separate component if they satisfy special recognition criteria.

The following depreciation periods are generally applied throughout the Covestro Group:

Useful Life of Property, Plant and Equipment

Buildings	20 to 50 years
Infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	5 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately.

When assets are sold, closed down or scrapped, the difference between the net proceeds and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

Impairment of other intangible assets and property, plant and equipment

If there are indications that an individual item of intangible assets or property, plant and equipment may be impaired, the recoverable amount is compared to the carrying amount to determine whether it is higher or lower. If the recoverable amount is less than the carrying amount, an impairment loss is recognized for the difference. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the original (amortized) cost of acquisition or generation.

Both depreciation or amortization and impairment losses are recognized in the functional cost in line with the use of the relevant asset.

Inventories

Inventories are recognized at their cost of acquisition or production (production-related full cost) – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses.

Financial instruments

Contracts are recognized as financial instruments in the financial statements which simultaneously give rise to a financial asset at one entity while resulting in a financial liability or equity instrument at another entity. Accordingly, financial assets are recognized in the consolidated financial statements if the Covestro Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial liabilities are initially recognized in the consolidated financial statements if Covestro has a contractual obligation to transfer cash or other financial assets to another entity. With the exception of trade accounts receivable, financial instruments are measured at fair value plus directly attributable transaction costs upon initial recognition. For financial instruments measured at fair value through profit or loss, transaction costs are recognized directly in the income statement. Trade accounts receivable are recognized at their transaction price. Subsequent measurement of financial instruments is based on their classification in the categories stipulated in IFRS 9 (Financial Instruments).

Financial assets

Financial assets comprise loans, acquired equity and debt instruments, cash and cash equivalents, other financial assets, and derivatives with positive fair values. The classification and measurement of financial assets is based on the business model pursued by the Covestro Group with regard to the management of its financial assets for the purpose of collecting cash flows, and on the characteristics of the contractual cash flows from the relevant financial assets (Cashflow condition). Subsequent measurement takes place according to the measurement rules for the respective category, as described below.

Financial assets carried at amortized cost comprise nonderivative financial assets that are held as part of a business model that aims to collect contractual cash flows and that additionally fulfill the cash flow condition, i.e. the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. This category comprises trade accounts receivable, the loans included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from financial assets assigned to this category is determined using the effective interest method.

Financial assets carried at fair value through other comprehensive income encompass debt instruments held as part of a business model that aims to obtain cash flows from the instrument both by collecting contractual payments as well as through the sale thereof, and that additionally fulfill the cash flow condition. Acquired bonds may be classified in this category to the extent that they are intended to be sold before they mature. Interest income, foreign currency gains and losses, and impairment losses or impairment loss reversals are recognized in the income statement for financial assets in this category. The remaining fair value changes are recognized in other comprehensive income. Upon derecognition, the cumulative net gains or losses included in other comprehensive income are reclassified to the income statement.

The Covestro Group exercises the option of recognizing changes in the fair value of equity instruments that are not held for trading in other comprehensive income. In contrast to the treatment of debt instruments, the gains and losses recognized in other comprehensive income are not reclassified to the income statement upon derecognition, and no impairment losses are recognized in profit or loss.

Financial assets carried at fair value through profit or loss are all financial assets not assigned to any of the above categories and particularly include derivatives with positive fair values. The Covestro Group does not opt to measure financial assets at fair value for the purpose of avoiding or minimizing accounting mismatches.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all significant risks and rewards.

Cash and cash equivalents

Cash and cash equivalents comprise cash, checks received and balances with banks. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash, and have a maturity of three months or less from the date of acquisition or investment.

Derivatives

Derivatives – such as forward exchange contracts – are used to mitigate the risk of fluctuations in exchange rates. Derivatives are recognized at the trade date.

Contracts concluded in order to receive or deliver nonfinancial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To take advantage of market opportunities or cover possible peak demand, a nonmaterial volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as derivatives according to IFRS 9.

Derivatives are carried at fair value. This relates to what are known as standalone derivatives as well as derivatives embedded in certain types of contracts and therefore required to be accounted for separately from their host contracts. Positive fair values at the end of the reporting period are reflected in financial assets, negative fair values in financial liabilities. Changes in the fair values of these derivatives are recognized directly in profit or loss in the other operating result. Changes in the fair values of forward exchange contracts and currency options serving as hedging instruments for items in the statement of financial position are divided into an interest and a currency component. The interest component is recognized in interest expense or income and the currency component is recognized as exchange gains or losses in the other financial result. Changes in the fair value of forward exchange contracts used to hedge forecasted transactions in foreign currencies are recognized in other operating result.

Covestro does not apply hedge accounting.

Financial liabilities

Financial liabilities comprise primary financial liabilities and negative fair values of derivatives.

In subsequent periods, such nonderivative liabilities are measured at amortized cost using the effective interest method. The Covestro Group does not opt to measure financial liabilities at fair value to avoid or minimize accounting mismatches.

Financial liabilities are derecognized when the contractual obligation is discharged or canceled, or has expired.

Provisions for pensions and other post-employment benefits

Within the Covestro Group, post-employment benefits are provided under defined contribution and defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due and as such are included in the functional cost items, and thus in income after income taxes plus financial result and income tax expense (EBIT). All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e. financed by provisions, or funded, i.e. financed through pension funds.

The present value of the defined benefit obligations and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, future salary and pension increases, variations in health care costs, and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected cash outflows from the pension plans. The uniform discount rate derived from this interest rate structure is thus based on the yields, at the closing date, of a portfolio of corporate bonds with at least an AA or AAA rating whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation.

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits to determine the net defined benefit liability. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset ceiling specified in IAS 19. Comprehensive actuarial valuations for all major plans are performed annually as of December 31.

The balance of all income and expenses relating to defined benefit plans, except the net interest on the net liability, is recognized in EBIT. The net interest is reflected in the financial result.

The effects of remeasurements of the net defined benefit liability are reflected in other comprehensive income. They consist of actuarial gains and losses, the return on plan assets and changes in the effects of the asset ceiling, less the respective amounts included in net interest for the last two components. Deferred taxes relating to the effects of remeasurements are also recognized in other comprehensive income.

Other provisions

Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19 (Employee Benefits). Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income recognized in the operating expense item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the net assets, financial position and results of operations are selected and tested for their sensitivity to changes in the underlying parameters using sensitivity analysis. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a five-percentage-point change in the probability of occurrence is examined in each case.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work, such costs can be reliably estimated, and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained regarding existing environmental programs, current costs, and new developments affecting costs. Also taken into consideration are management’s interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, Covestro’s management believes the existing provisions to be adequate based upon currently available information. Given the businesses in which the Covestro Group operates and the difficulties inherent in accurately estimating liabilities for environmental protection, it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated.

Provisions for restructuring only cover expenses that arise directly from restructuring measures, are necessary for restructuring and are not related to future business operations. Such expenses include severance payments to employees and compensation payments in respect of rented property that can no longer be used.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities or fundamental reorganizations of business units. The respective provisions are established when a detailed restructuring plan has been drawn up, resolved upon by the responsible decision-making level of management and communicated to the employees and/or their representatives. Provisions for restructuring are generally established at the present value of future cash outflows.

As a global enterprise, the Covestro Group is exposed to numerous legal risks for which **provisions for litigations** must be established under certain conditions – including especially in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control.

Litigation and other judicial proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcomes of currently pending and future proceedings generally cannot be predicted. Judgment in court proceedings, regulatory decisions or the conclusion of a settlement may result in the Covestro Group incurring charges for which no accounting measures have been taken for lack of reasonable estimate or which exceed established provisions and insurance coverage.

The Covestro Group considers the need for accounting measures in respect of pending or future litigations, and the extent of any such measures, on the basis of the information available to its legal department and in close consultation with legal counsel acting for the Covestro Group.

Where it is more likely than not that such a litigation will result in an outflow of resources that is already reasonably estimable, a provision for litigation is normally recorded in the amount of the present value of the expected cash outflows. Such provisions cover the estimated unavoidable payments to the plaintiffs, court and procedural costs, attorney costs, and the cost of potential settlements.

It is often impossible to reliably determine the existence of a present obligation or reasonably estimate the probability that a potential outflow of resources will result from a pending or future litigation. Due to the special nature of these litigations, provisions generally are not established until initial settlements allow an estimate of potential amounts or judgments have been issued and not before at least a range of possible legal outcomes of such litigations is possible. Provisions for legal defense costs are established if it is probable that material costs will have to be incurred for external legal counsel to defend the company's legal position.

Internal and external legal counsels evaluate the current status of the material legal risks of the Covestro Group at the end of each reporting period. The need to establish or adjust a provision and the amount of the provision or adjustment are determined on this basis. Adjusting events are reflected up to the date of preparation of the consolidated financial statements.

The status of the material legal risks is described in note 26.

Personnel-related provisions are mainly those recorded for variable one-time payments, individual performance awards, long-service awards, severance payments in connection with early retirement arrangements, surpluses on long-term accounts and other personnel costs.

Obligations under stock-based compensation programs that provide for awards payable in cash are also included here. The compensation of the Board of Management of Covestro AG and of managerial employees includes stock-based compensation components that are earned with lock-up periods and are reflected in profit or loss as personnel expenses in line with the consideration paid in the performance period. They are measured using a subscription price model at the time of granting and at each reporting date in accordance with IFRS 2 (Share-based Payment).

Miscellaneous provisions include those for other liabilities, product liability and warranties.

Other receivables and liabilities

Grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities, and amortized to income over the useful lives of the respective investments.

Leasing

Leases are classified as either finance or operating leases. Leasing transactions that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases.

Where the Covestro Group is the lessee in a finance lease, the leased asset is capitalized at the lower of the fair value of the asset and the present value of the minimum lease payments at the beginning of the lease term and simultaneously recognized under financial liabilities. The minimum lease payments are divided into the interest portion and the principal portion of the remaining obligation, which is determined using the effective interest method. The leased asset is depreciated by the straight-line method over the shorter of its estimated useful life or the lease term.

Acquisition accounting

Acquired businesses are accounted for using the acquisition method, which requires that the assets acquired and liabilities assumed be recorded at their respective fair values on the date control is obtained. Ancillary acquisition costs are recognized as expenses in the periods in which they occur.

Procedure used in global impairment testing and its impact

Global impairment testing is performed at the level of cash-generating units. A cash-generating unit (CGU) is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Covestro Group regards its strategic business entities as cash-generating units and subjects them to global impairment testing. The cash-generating units usually constitute the first financial reporting level below the reportable segments.

Cash-generating units are globally tested if there is an indication of possible impairment. Those to which goodwill is allocated are tested at least annually.

In the case of impairment, the resulting expense is reflected for goodwill in other operating expenses and for other assets in the functional item of the income statement in which the depreciation or amortization of the respective assets is recognized. The same applies to income from impairment loss reversals, although impairment losses on goodwill may not be reversed.

The recoverable amount is generally determined on the basis of the fair value less costs of disposal, taking into account the present value of the future cash flows as market prices for the individual units are normally not available. The forecasts of future cash flows generally have a planning horizon of three to five years and are based on the Covestro Group's current planning. Forecasting involves making assumptions, based on internal Group estimates and external sources, especially regarding future selling prices, sales volumes, costs, market growth rates, economic cycles and exchange rates. Where the recoverable amount is the fair value less costs of disposal, the cash-generating unit is measured from the viewpoint of an independent market participant. Cash flows beyond the planning period are determined on the basis of long-term business expectations using the respective individual growth rates derived from market information. The measurement of fair value less costs of disposal is based on unobservable inputs (Level 3 of the fair value hierarchy).

The net cash inflows are discounted at the weighted average cost of capital (WACC), which is calculated as the weighted average cost of equity and cost of debt. To take into account the risk and return profile of the Covestro Group, an after-tax cost of capital is calculated and a specific capital structure is defined by benchmarking against comparable companies in the same industry sector ("peer group"). The cost of equity corresponds to the return expected by stockholders, while the cost of debt is based on the terms at which the peer group can obtain long-term financing. In principle, both components are derived from capital market information.

The growth rates for the terminal value applied for impairment testing in 2018 amounted to 1% (previous year: 1%) for the Polyether Polyols CGU in the Polyurethanes reporting segment and 2% (previous year: 2%) in each case for the following CGUs: Diphenylmethane Diisocyanate (MDI) and Toluene Diisocyanate (TDI) in the Polyurethanes reporting segment; Polycarbonates (PCS) in the Polycarbonates reporting segment; and Base & Modified Isocyanates (BMI), Resins (RES), and Specialty Films (SF) in the Coatings, Adhesives, Specialties reporting segment. The after-tax capital cost factor used to discount the expected cash flows was 6.5% (previous year: 6.5%).

As was the case in the previous year, no impairment losses were recognized on goodwill in the reporting period on the basis of the global annual impairment testing of the cash-generating units. In the fiscal year, impairment losses on property, plant and equipment and intangible assets amounted to €7 million (previous year: €6 million) and impairment loss reversals on property, plant and equipment and intangible assets amounted to €0 million (previous year: €18 million). Details are provided in notes 13 and 14.

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Covestro Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations.

The sensitivity analysis for cash-generating units to which goodwill is allocated was based on a 10% reduction in the future free operating cash flow, a 10% increase in the WACC, or a one-percentage-point reduction in the long-term growth rate. For the Polyether Polyols CGU in the Polyurethanes reporting segment, the recoverable amount at the measurement date would be equal to the carrying amount if either discounted cash flows were €197 million lower, the WACC were 0.8% higher, or the long-term growth rate were 1.0% lower.

For the Diphenylmethane Diisocyanate (MDI) and Toluene Diisocyanate (TDI) CGUs, the Polycarbonates (PCS) CGU, and the Base & Modified Isocyanates (BMI), Resins (RES), and Specialty Films (SF) CGUs, the recoverable amount in each case calculated as of the measurement date substantially exceeds the respective carrying amount. The same is true as of the measurement date if the parameters selected for the sensitivity analysis are applied and considering other potential deviations from assumptions used for impairment testing.

Fair value

According to IFRS 13 (Fair Value Measurement), fair value is the price that would be received to sell an asset or paid to transfer a liability at the measurement date in an orderly transaction in a primary market or, if such is not available, in the most favorable market to which the Covestro Group has access at that time. In essence, the fair value of a liability reflects the risk of nonfulfillment.

If available, the Covestro Group calculates the fair value of a financial instrument based on quoted prices in an active market for this instrument. A market is regarded as active when transactions for the respective asset or liability take place with sufficient frequency and volume to provide regular pricing information at the reporting date.

If no quoted prices on an active market exist, measurement methods are used which maximize the use of relevant observable inputs and minimize the use of non-observable inputs. All factors taken into account by market participants in pricing such a transaction are incorporated into the relevant method of measurement.

Depending on the asset or liability category, specific information is provided about the principles for using or determining fair value. In the Covestro Group, this generally applies to items in the financial statements as well as disclosures in the notes.

Impairment losses

The Covestro Group calculates a risk provision for expected credit losses for the following items:

- financial assets measured at amortized cost,
- debt instruments measured at fair value through other comprehensive income
- financial guarantees and loan commitments,
- contract assets.

For financial instruments without a significant increase in credit risk since initial recognition, the amount of the risk provision for expected credit losses equals the credit losses expected to occur within the next twelve months. For financial instruments with a significant increase in credit risk, a risk provision is calculated in the amount of the credit losses expected over their residual maturity.

Relevant data from within and outside the company that can be obtained with reasonable effort is considered when determining whether the credit risk has increased substantially since initial recognition. For instance, the financial data of counterparties or customers, ratings, the payment histories of counterparties or customers, and forward-looking information are all assessed. It is assumed that a significant increase in credit risk has occurred when the financial asset is more than 30 days past due.

A default event has occurred when the Covestro Group comes to the conclusion that the counterparty is highly unlikely to be able to meet its payment obligations in full.

In the case of trade accounts receivable and contract assets, the amount of the risk provision is equal to the credit losses expected over their remaining term.

At each reporting date, the Covestro Group determines whether financial assets measured at amortized cost or at fair value through other comprehensive income are credit impaired. Indicators of credit impairment of a financial asset include observable data regarding the following events:

- significant financial difficulties of the issuer or borrower,
- a breach of contract, such as default or delinquency,
- concessions that Covestro makes to the borrower for financial or legal reasons relating to the financial difficulties of the borrower that it would not otherwise make,
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganization,
- the loss of an active market for this financial asset.

The gross carrying amount of a financial asset is derecognized when the Covestro Group comes to the conclusion that the counterparty is no longer able to meet its payment obligations. Following derecognition, the Covestro Group assumes that it will no longer be able to recover any significant amounts.

Accounting Policies and Valuation Principles Applied as of December 31, 2017

Sales

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income.

Product sales are recognized in profit or loss when

- the significant risks and rewards of ownership of the goods have been transferred to the customer,
- the Covestro Group retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold,
- the amount of revenue and costs incurred or to be incurred can be measured reliably, and
- it is sufficiently probable that the economic benefits associated with the transaction will flow to the Covestro Group.

As a rule, the transfer of the significant risks and rewards of ownership of the goods takes place at the same time as the passing of possession to the customer or at a time during the transport operation when Covestro is no longer responsible for the insurance. The transfer of legal ownership is based on the agreed dispatch and transport conditions.

Sales are stated net of sales taxes, other taxes and sales deductions at the fair value of the considerations received or to be received. Sales deductions are estimated amounts for rebates, cash discounts, and similar sales allowances. They are deducted at the time the sales are recognized, and appropriate provisions are recorded. Sales deductions are estimated primarily on the basis of historical experience, specific contractual terms, and expectations of future sales development. It is unlikely that factors other than these could materially affect sales deductions in the Covestro Group. Adjustments to provisions for rebates and similar sales allowances established in prior periods were of secondary importance for income before income taxes in the reporting period.

Financial assets

Financial assets comprise loans and receivables, acquired equity and debt instruments, cash and cash equivalents, and derivatives with positive fair values.

They are recognized and measured in accordance with IAS 39 (Financial Instruments: Recognition and Measurement). Accordingly, financial assets are recognized in the consolidated financial statements if the Covestro Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial assets are initially recognized at fair value plus transaction costs. If these assets are to be carried at amortized cost for the purposes of subsequent measurement, the transaction costs are accounted for as deferred expense using the effective interest method. However, the transaction costs incurred for the purchase of financial assets held at fair value through profit or loss are expensed immediately. Upon first-time recognition, each financial asset is assigned to one of the categories prescribed in IAS 39. Subsequent measurement takes place according to the measurement rules for the respective category, as described below.

"Financial assets at fair value through profit or loss" comprise those financial assets that are held for trading. This category also includes the receivables from other derivatives not used in hedge accounting that are included in other financial assets, in addition to embedded derivatives in some cases. Changes in the fair value of financial assets in this category are recognized in profit or loss when the increase or decrease in fair value occurs.

"Loans and receivables" are nonderivative financial assets with fixed or determinable payments that are not quoted in an active market. They are accounted for at amortized cost using the effective interest method. This category comprises trade accounts receivable, the loans and receivables included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from items assigned to this category is determined using the effective interest method.

"Available-for-sale financial assets" are those nonderivative financial assets that are not assigned to any of the above categories. They mainly include equity instruments, such as shares, and debt instruments not to be held to maturity that are included in other financial assets. After their first-time recognition, "available-for-sale financial assets" are measured at fair value and any unrealized gains or losses are recognized outside profit or loss in other comprehensive income. These are only reclassified to profit or loss if the assets are sold or if there are objective indications of impairment, in which case the accumulated loss is recognized in profit or loss. An objective indication of impairment is a significant or prolonged decrease in the fair value of an equity instrument to below its acquisition cost. Previously recognized impairment losses are reversed if the reasons for them no longer apply. Impairment loss reversals for equity instruments are recognized outside profit or loss, while those for debt instruments are recognized in profit or loss. Where possible, a fair value for equity securities is derived from market data. Those financial assets for which no market price is available and whose fair value cannot be reasonably estimated are recognized at cost less any impairment losses.

If there are substantial and objective indications of a decline in the value of “loans and receivables” or “available-for-sale financial assets”, an impairment test is performed. Indications of possible impairment include a high probability of insolvency, a significant deterioration in credit standing, a material breach of contract, operating losses reported by a company over several years, a reduction in market value, the financial restructuring of the debtor, or the disappearance of an active market for the asset.

In the case of “loans and receivables”, an impairment test is performed in which the carrying amount is compared to the present value of the expected future cash flows, discounted at the original effective interest rate. If the carrying amount exceeds the present value, an impairment loss is recognized for the difference between the two amounts. If the reasons for previously recognized impairment losses no longer apply, the impairment losses are reversed, provided that this does not cause the carrying amounts to exceed the amortized cost of acquisition.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all significant risks and rewards.

4. Segment and Regional Reporting

The Board of Management of Covestro AG, as the chief operating decision maker of the Covestro Group, allocates resources to the operating segments and assesses their performance. The reportable segments and regions are identified, and the disclosures selected, in line with the internal financial reporting system (management approach). These are based on the same accounting policies as described for the Covestro Group in note 3.

As of December 31, 2018, the Covestro Group comprises three reportable segments with the following activities:

Polyurethanes

The Polyurethanes segment develops, produces and markets high-quality precursors for polyurethanes. These precursors are isocyanates (MDI, TDI) and polyether polyols. Flexible polyurethane foam is used primarily in the furniture and automotive industries (e.g. in upholstered furniture, mattresses and car seats). Rigid foam is used mainly in the construction industry as an insulating material as well as along the entire refrigeration chain. The segment operates production facilities worldwide as well as systems houses for formulating and supplying customized polyurethane systems.

Polycarbonates

The Polycarbonates segment develops, produces and markets the high-performance plastic polycarbonate in the form of granules, composite materials and semifinished products (sheets). The material is used primarily in the automotive industry (e.g. in the passenger compartment and for vehicle lighting) and in the construction industry (e.g. for roof structures). It is also used in the electrical and electronics industry (e.g. for connector housings, computer cases and DVDs), the medical technology sector and the lighting industry (e.g. for LED components). The Covestro Group produces polycarbonate all around the world and processes it at compounding centers to meet specific customer requirements.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment develops, produces and markets precursors for coatings, adhesives and sealants as well as specialties – primarily for polyurethane systems. They include polymer materials and aqueous dispersions based on the isocyanates HDI and IPDI, which are produced at facilities located throughout the world. The main areas of application are automotive and transportation, infrastructure and construction, wood processing, and furniture. The specialties comprise elastomers, high-quality films and precursors for the cosmetics, textiles and health care sectors.

Business activities that cannot be allocated to any of the aforementioned segments are reported under **"All other segments"**. The external sales from these activities are generated mainly from by-products of chlorine production and use.

The costs of Corporate Center functions and higher or lower expenses for long-term stock-based compensation arising from fluctuations in the performance of Covestro AG stock are presented in the segment reporting as **"Corporate Center and reconciliation"**.

The segment data are calculated as follows:

- Core volume growth[1] refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution, and styrene. These transactions are not included in core volume growth.

- EBIT and EBITDA are not defined in the International Financial Reporting Standards. EBIT is equal to income after income taxes plus financial result and income tax expense. EBITDA is the EBIT as reported in the income statement plus depreciation and impairment losses on property, plant and equipment and amortization and impairment losses on intangible assets, less impairment loss reversals.

[1] Not an IFRS KPI, reported voluntarily

- Free operating cash flow is the operating cash flows less cash outflows for additions to property, plant and equipment and intangible assets. As a component of operating cash flows, income taxes paid are not directly attributed to any particular unit of the company. For purposes of calculating operating cash flows, the income taxes paid of a reporting segment are determined according to the management approach by multiplying the effective tax rate (ETR) expected for the fiscal year by that segment's EBIT.

- Working capital comprises inventories plus trade accounts receivable less trade accounts payable.

The following tables show the segment reporting data for fiscal 2018 and as of December 31, 2018, respectively:

Key Data by Segment[1]

				Other/Consolidation		
	Polyurethanes	Polycarbonates	Coatings, Adhesives, Specialties	All other segments	Corporate Center and reconciliation	Covestro Group
	€ million	€ million	€ million	€ million	€ million	€ million
2018						
Net sales	7,362	4,051	2,361	842	–	14,616
Core volume growth[2]	+0.8%	+3.0%	+2.5%			+1.6%
EBITDA	1,763	1,036	464	9	(72)	3,200
EBIT	1,412	861	371	8	(72)	2,580
Free operating cash flow	972	468	203	93	(67)	1,669
Cash outflows for additions to property, plant and equipment and intangible assets	414	186	106	1	–	707
Depreciation, amortization and impairment losses	(351)	(175)	(93)	(1)	–	(620)
of which impairment losses	(2)	(4)	(1)	–	–	(7)
of which impairment loss reversals	–	–	–	–	–	–
Research and development expenses	(102)	(79)	(90)	(6)	1	(276)
2017						
Net Sales	7,386	3,737	2,327	688	–	14,138
Core volume growth[2]	+3.1%	+5.0%	+1.5%			+3.4%
EBITDA	2,179	853	486	7	(90)	3,435
EBIT	1,826	672	396	4	(90)	2,808
Free operating cash flow	1,076	321	249	271	(74)	1,843
Cash outflows for additions to property, plant and equipment and intangible assets	276	155	87	–	–	518
Depreciation, amortization and impairment losses	(353)	(181)	(90)	(3)	–	(627)
of which impairment losses	(5)	–	–	(1)	–	(6)
of which impairment loss reversals	15	–	3	–	–	18
Research and development expenses	(103)	(74)	(95)	(1)	(1)	(274)

[1] Prior-year figures in the Polyurethanes and Coatings, Adhesives, Specialties segments have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018
[2] Reference values calculated based on the definition of the core business effective March 31, 2018. Not an IFRS KPI, reported voluntarily.

Working Capital by Segment

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Polyurethanes[1]	1,005	1,018
Polycarbonates	644	769
Coatings, Adhesives, Specialties[1]	460	500
Total of reportable segments	**2,109**	**2,287**
All other segments	75	85
Corporate Center	(7)	(10)
Working capital	**2,177**	**2,362**
of which inventories	1,913	2,213
of which trade accounts receivable	1,882	1,786
of which trade accounts payable	(1,618)	(1,637)

[1] Prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018

Information by geographical areas

The following table shows information by geographical area. The EMLA region consists of Europe, the Middle East, Africa and Latin America except Mexico, which together with the United States and Canada forms the NAFTA region. The APAC region includes Asia and the Pacific region.

Regional Reporting[1]

	EMLA	NAFTA	APAC	Total
	€ million	€ million	€ million	€ million
2018				
Net sales (external) by market	6,284	3,469	4,863	14,616
Net sales (external) by point of origin	6,234	3,555	4,828	14,616
2017				
Net sales (external) by market	5,997	3,398	4,743	14,138
Net sales (external) by point of origin	5,982	3,470	4,686	14,138

[1] No further presentation of interregional sales is provided, as these are neither reported separately to, nor do they influence the EBIT and EBITDA reported to the Board of Management of Covestro AG

The following table provides a breakdown by countries of external sales by market and of property, plant and equipment as well as intangible assets:

Net Sales (External) by Market and Property, Plant and Equipment and Intangible Assets by Country

	Net sales (external) by market	Property, plant and equipment and intangible assets
	€ million	€ million
2018		
Germany	1,783	1,361
United States	2,850	1,093
China	3,106	1,479
Other	6,877	809
Total	**14,616**	**4,742**
2017		
Germany	1,723	1,229
United States	2,777	1,020
China	3,062	1,630
Other	6,576	751
Total	**14,138**	**4,630**

Information on major customers

Revenues from transactions with a single customer in no case exceeded 10% of Covestro Group sales in fiscal 2018 or the previous year.

Reconciliation

The following table shows the reconciliation of EBITDA of the segments to income before income taxes of the Group.

Reconciliation of Segments' EBITDA to Group Income Before Income Taxes

	2017	2018
	€ million	€ million
EBITDA of reportable segments	3,518	3,263
EBITDA of all other segments	7	9
EBITDA of Corporate Center	(90)	(72)
EBITDA	**3,435**	**3,200**
Depreciation, amortization, impairment losses and impairment loss reversals of reportable segments	(624)	(619)
Depreciation, amortization, impairment losses and impairment loss reversals of all other segments	(3)	(1)
Depreciation, amortization, impairment losses and impairment loss reversals	**(627)**	**(620)**
EBIT of reportable segments	2,894	2,644
EBIT of all other segments	4	8
EBIT of Corporate Center	(90)	(72)
EBIT	**2,808**	**2,580**
Financial result	(150)	(104)
Income before income taxes	**2,658**	**2,476**

5. Changes in the Scope of Consolidation

5.1. Scope of Consolidation and Investments

As of December 31, 2018, the scope of consolidation comprised Covestro AG and 49 (previous year: 49) consolidated companies.

The Covestro Group holds 100% of the voting rights in the fully consolidated subsidiary Bayer Pearl Polyurethane Systems L.L.C, Dubai (United Arab Emirates), pursuant to a contractual agreement with the noncontrolling stockholders.

Pure Salt Baytown LLC, Houston (United States), (Pure Salt LLC) is included as a structured entity. The Covestro Group obtains all the evaporated salt needed for its production operations at Baytown (United States), from Pure Salt LLC. This comprises most of that company's production capacity. The variable and fixed costs of Pure Salt LLC are reimbursed by Covestro in accordance with a contractually agreed mechanism. Moreover, the Covestro Group is obliged to finance one-time operating expenses and guarantees the liabilities of Pure Salt LLC to banks. As of December 31, 2018, guaranteed liabilities amounted to €1 million (previous year: €6 million). Pure Salt LLC is dependent to a high degree on Covestro (e.g. through approval requirements), which means that Covestro can indirectly enforce its interests in respect of this company.

As in the previous year, the scope of consolidation as of December 31, 2018, included the joint operation LyondellBasell Covestro Manufacturing Maasvlakte V.O.F, Rotterdam (Netherlands). Pursuant to IFRS 11 (Joint Arrangements), Covestro's shares of this company's assets, liabilities, revenues and expenses are included in the consolidated financial statements in accordance with Covestro's rights and obligations. The main purpose of LyondellBasell Covestro Manufacturing Maasvlakte V.O.F is the joint production of propylene oxide (PO) for Covestro and its partner Lyondell.

Additionally, two (previous year: two) associated companies and one (previous year: one) joint venture are accounted for in the consolidated financial statements using the equity method.

Five (previous year: six) subsidiaries and one (previous year: one) associated company that in aggregate are immaterial to the Covestro Group's net assets, financial position and results of operations are not consolidated but recognized at cost. The immaterial subsidiaries each accounted for no more than 0.1% of Group sales, equity or total assets.

The consolidated financial statements of Covestro are submitted to the operator of the Federal Gazette (Bundesanzeiger).

Details of subsidiaries and affiliated companies pursuant to Section 313 of the German Commercial Code (HGB) are shown in the following tables. The first table shows fully consolidated companies:

Fully Consolidated Companies

Company name	Place of business	Covestro's interest
		%
EMLA		
Bayer Pearl Polyurethane Systems FZCO	Dubai (United Arab Emirates)	51
Bayer Pearl Polyurethane Systems L.L.C	Dubai (United Arab Emirates)	49[1]
Covestro (France) SNC	Fos-sur-Mer (France)	100
Covestro (Slovakia) Services s.r.o.	Bratislava (Slovakia)	100
Covestro (Tielt) NV	Tielt (Belgium)	100
Covestro A/S	Otterup (Denmark)	100
Covestro B.V.	Foxhol (Netherlands)	100
Covestro Brunsbüttel Energie GmbH	Brunsbüttel (Germany)	100
Covestro Deutschland AG	Leverkusen (Germany)	100
Covestro Elastomers SAS	Romans-sur-Isère (France)	100
Covestro First Real Estate GmbH	Monheim (Germany)	100
Covestro GmbH	Leverkusen (Germany)	100
Covestro Indústria e Comércio de Polímeros Ltda.	São Paulo (Brazil)	100
Covestro International SA	Fribourg (Switzerland)	100
Covestro NV	Antwerp (Belgium)	100
Covestro Oldenburg GmbH & Co. KG	Oldenburg (Germany)	100
Covestro Polyurethanes B.V.	Nieuwegein (Netherlands)	100
Covestro S.p.A.	Milan (Italy)	99
Covestro S.r.l.	Milan (Italy)	100
Covestro Second Real Estate GmbH	Monheim (Germany)	100
Covestro Thermoplast Composite GmbH	Markt Bibart (Germany)	100
Covestro UK Limited	Cheadle (United Kingdom)	100
Covestro, S.L.	La Canonja (Spain)	100
Epurex Films GmbH & Co. KG	Bomlitz (Germany)	100
MS Global AG	Köniz (Switzerland)	100
MS Holding B.V.	Nieuwegein (Netherlands)	100
OOO Covestro	Moscow (Russia)	100
NAFTA		
Covestro International Trade Services Corp.	Wilmington (United States)	100
Covestro LLC	Pittsburgh (United States)	100
Covestro PO LLC	New Martinsville (United States)	100
Covestro S.A. de C.V.	Mexico City (Mexico)	100
Pure Salt Baytown LLC	Houston (United States)	0[2]
APAC		
Covestro (Hong Kong) Limited	Hong Kong (China)	100
Covestro (India) Private Limited	Thane (India)	100
Covestro (Shanghai) Management Co., Ltd.	Shanghai (China)	100
Covestro (Taiwan) Ltd.	Kaohsiung City (Taiwan)	95.5
Covestro (Thailand) Co., Ltd.	Bangkok (Thailand)	100
Covestro (Viet Nam) Company Limited	Ho Chi Minh City (Vietnam)	100
Covestro Far East (Hong Kong) Limited	Hong Kong (China)	100
Covestro Japan Ltd.	Tokyo (Japan)	100
Covestro Korea Corporation	Seoul (South Korea)	100
Covestro Polymers (China) Co., Ltd.	Shanghai (China)	100
Covestro Polymers (Qingdao) Co., Ltd.	Qingdao (China)	100
Covestro Polymers (Shenzhen) Co., Ltd.	Shenzhen (China)	100
Covestro Pty Ltd	Cheltenham (Australia)	100
Guangzhou Covestro Polymers Co., Ltd.	Guangzhou (China)	100
PT Covestro Polymers Indonesia	Jakarta (Indonesia)	99.9
Sumika Covestro Urethane Company, Ltd.	Amagasaki (Japan)	60

[1] Fully consolidated subsidiary pursuant to IFRS 10.B39
[2] Fully consolidated structured entity according to IFRS 10.B8 in conjunction with B19 (b) and (c) and other substantial rights of Covestro

The following joint operation was included in the consolidated financial statements in line with Covestro's shares of its assets, liabilities, revenues and expenses:

Joint Operation

Company name	Place of business	Covestro's interest
		%
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F	Rotterdam (Netherlands)	50

The following associated companies and joint ventures are accounted for in the consolidated financial statements using the equity method:

Associates and Joint Ventures Accounted for Using the Equity Method

Company name	Place of business	Covestro's interest
		%
Associates		
Paltough Industries (1998) Ltd.	Kibbuz Ramat Yochanan (Israel)	25
PO JV, LP	Wilmington (United States)	39.4
Joint ventures		
DIC Covestro Polymer Ltd.	Tokyo (Japan)	50

The following subsidiaries were reflected in the consolidated financial statements at amortized cost due to their immateriality:

Immaterial Subsidiaries

Company name	Place of business	Covestro's interest
		%
Asellion B.V.	Amsterdam (Netherlands)	100
Covestro Polímer Anoním Şírketí	Istanbul (Turkey)	100
Covestro Polymers (Tianjin) Co., Ltd.	Tianjin (China)	100
Covestro Verwaltungs GmbH Oldenburg	Oldenburg (Germany)	100
Epurex Films Geschäftsführungs-GmbH	Bomlitz (Germany)	100

The following associated company was accounted for in the consolidated financial statements at cost due to its immateriality:

Immaterial Associate

Company name	Place of business	Covestro's interest
		%
Technology JV, L.P.	Wilmington (United States)	33.3

The following domestic subsidiaries availed themselves in fiscal 2018 of certain exemptions granted under Section 264, Paragraph 3 or Section 264b of the German Commercial Code (HGB) regarding the preparation, auditing and publication of financial statements:

German Exempt Subsidiaries

Company name	Place of business	Covestro's interest
		%
Covestro GmbH	Leverkusen (Germany)	100
Covestro Oldenburg GmbH & Co. KG	Oldenburg (Germany)	100
Epurex Films GmbH & Co. KG	Bomlitz (Germany)	100

5.2 Acquisitions and Divestitures

Acquisitions

No material acquisitions were made in fiscal 2018.

Divestitures

On August 1, 2018, Covestro finalized an asset deal under the Polycarbonates segment to divest the assets and liabilities (disposal group) of the United States sheet business to Plaskolite LLC, Columbus, OH (United States), for a selling price of €62 million. Production-related assets and inventories of €29 million as well as liabilities amounting to €3 million were transferred to the buyer. The gain on the disposal of this business totaling €36 million was recognized in other operating result.

Notes to the Income Statement

6. Net Sales

Sales are categorized according to "geographical regions and key countries", and mainly comprise sales from contracts with customers and an insignificant amount of rental and leasing sales. The table also contains a breakdown of sales by reportable segments.

Disaggregation of Sales

				Other/Consolidation		
	Polyurethanes	Polycarbonates	Coatings, Adhesives, Specialties	All other segments	Corporate Center and reconciliation	Covestro Group
	€ million	€ million	€ million	€ million	€ million	€ million
2018						
EMLA	3,182	1,347	1,117	638	–	6,284
of which Germany	564	340	489	390	–	1,783
NAFTA	1,947	817	519	186	–	3,469
of which United States	1,528	671	468	183	–	2,850
APAC	2,233	1,887	725	18	–	4,863
of which China	1,498	1,221	383	4	–	3,106

The following table presents the opening and closing balances of trade accounts receivable, contract assets, and contract liabilities.

Contract Balances

	Jan. 1, 2018	Dec. 31, 2018
	€ million	€ million
Trade accounts receivable	1,864	1,786
Contract assets	59	52
Contract liabilities	42	28

Contract assets are recognized in case the right to consideration in exchange for goods or services that have been transferred to a customer is conditional. This occurs primarily in the event of goods delivered to consignment warehouses of external customers. Contract assets are recognized as receivables upon invoicing.

Contract liabilities are recognized for advance payments received from customers prior to transferring goods or services. These contract liabilities are recognized as sales when the goods or services have been transferred.

Sales from performance obligations satisfied (or partially satisfied) in previous periods and recognized in fiscal 2018 amounted to €2 million.

The changes in contract assets and contract liabilities in the reporting period resulted from the following circumstances:

Reconciliation of Contract Balances

	Contract assets	Contract liabilities
	€ million	€ million
2018		
Revenue recognized that was included in the contract liability balance at the beginning of the period	–	(38)
Transfers from contract assets recognized at the beginning of the period to trade accounts receivable	(57)	–
Increases due to cash received, excluding amounts recognized as revenue during the period	–	28
Increases due to performance obligations fulfilled but not billed at the reporting date	48	–
Catch-up adjustments to revenue that affect the corresponding contract asset or contract liability	2	(4)
Total	**(7)**	**(14)**

The following table provides the transaction price allocated to the remaining performance obligations as of December 31, 2018. The total amount is divided according to the reporting period when it is expected to be recognized.

Transaction price allocated to the remaining performance obligations

	Dec. 31, 2018
	€ million
2019	480
2020	316
2021	289
2022	309
2023	213
2024 or later	116
Total	**1,723**

The disclosures on the transaction price allocated to the remaining performance obligations is based on long-term supply contracts according to IFRS 15 (Revenue from Contract with Customers) which stipulate minimum volumes to be purchased as agreed between both parties.

Performance obligations from contracts with an original expected term of twelve months or less are excluded. Similarly, the disclosure of the transaction price excludes performance obligations satisfied over time for which Covestro has the right to consideration in an amount that corresponds directly with the value to the customer of the performance completed to date and for which Covestro may recognize revenue in the amount to which Covestro has the right to invoice.

The transaction price only includes variable considerations arising from contracts with customers, like sales- or volume-based rebates or price formulas, for which the prices are derived from external, market-based indices, to the extent that they are not constrained as defined in IFRS 15.

7. Other Operating Income

Other operating income was comprised as shown in the following table:

Other Operating Income

	2017	2018
	€ million	€ million
Gains on retirements of noncurrent assets	47	54
Gains from derivatives	4	5
Reversals of unutilized provisions	3	5
Reversals of impairment losses on receivables	3	2
Miscellaneous operating income	88	57
Total	**145**	**123**

In fiscal 2018, a gain on retirements of noncurrent assets was recognized in the amount of €36 million from the sale of the polycarbonate sheet business to Plaskolite LLC, Columbus (United States). In addition, the item includes proceeds totaling €15 million from the sale of various properties and buildings[2]. In 2017, the gain on retirements of noncurrent assets resulted mainly from proceeds of €39 million from the sale of a U.S. polyurethane spray foam systems business to Accella Polyurethane Systems LLC, Maryland Heights (United States).

Gains from derivatives in fiscal years 2017 and 2018 resulted from embedded derivatives.

Miscellaneous operating income for the reporting period primarily included insurance reimbursements amounting to €29 million (previous year: €44 million). In 2017, this item also included reversals of impairment losses on property, plant and equipment amounting to €15 million due to the continuation of MDI production at the site in Tarragona (Spain). The remaining amount consisted of a large number of individually immaterial items.

8. Other Operating Expenses

Other operating expenses were comprised as shown in the following table:

Other Operating Expenses

	2017	2018
	€ million	€ million
Losses on retirements of noncurrent assets	(2)	(9)
Impairment losses on receivables	(13)	(6)
Losses from derivatives	(3)	(4)
Miscellaneous operating expenses	(42)	(47)
Total	**(60)**	**(66)**

In fiscal 2018, losses on retirements of noncurrent assets included losses totaling €5 million from the sale of various properties and buildings[2].

Losses from derivatives in fiscal years 2017 and 2018 resulted from embedded derivatives.

Miscellaneous operating expenses in fiscal 2018 included insurance expenses amounting to €16 million. In 2017 and 2018, the remaining amount consisted of numerous individually immaterial items.

[2] The same transaction resulted both in gains and in losses on retirements of noncurrent assets, see note 7 and 8.

9. Personnel Expenses and Employee Numbers

Personnel expenses in 2018 were comprised as shown in the following table:

Personnel Expenses

	2017	2018
	€ million	€ million
Salaries	(1,572)	(1,610)
Social expenses and expenses for pensions and other benefits	(343)	(348)
of which for defined contribution pension plans	(90)	(88)
of which for defined benefit and other pension plans	(110)	(105)
Total	**(1,915)**	**(1,958)**

Average Number of Employees

	2017	2018
Production	10,036	10,348
Marketing and distribution	3,466	3,580
Research and development	1,048	1,104
General administration	1,439	1,575
Total	**15,989**	**16,607**
Employees in vocational training	444	482

The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours. The figures do not include employees in vocational training.

10. Financial Result

10.1 Result from Investments in Affiliated Companies

The result from investments in affiliated companies comprised mainly the loss of €25 million (previous year: loss of €26 million) from PO JV, LP, Wilmington (United States), an associate accounted for using the equity method, and the gain of €3 million (previous year: €3 million) from two companies accounted for using the equity method. In addition, this item includes €1 million (previous year: €0 million) in dividend income from other investments. Further details of the companies accounted for using the equity method are given in note 15.

10.2 Net Interest Expense

Net interest expense was comprised as shown in the following table:

Net Interest Expense

	2017	2018
	€ million	€ million
Expenses		
Interest and similar expenses	(42)	(38)
Interest expenses for fx-derivatives	(78)	(44)
Income		
Interest and similar income	5	10
Interest income from fx-derivatives	16	25
Total	**(99)**	**(47)**

Interest and similar expenses primarily resulted from Covestro AG loans, from liabilities to banks of the subsidiary Covestro Polymers (China) Co., Ltd., Shanghai (China), and from interest expenses from finance leases. Interest expense and interest income from forward exchange contracts included interest rate-induced fair value changes and the forward element.

10.3 Other Financial Result

The other financial result was comprised as shown in the following table:

Other Financial Result

	2017	2018
	€ million	€ million
Expenses		
Interest portion of interest-bearing provisions	(28)	(32)
Exchange gain /(loss)	4	–
Miscellaneous financial expenses	(4)	(4)
Total	**(28)**	**(36)**

The interest portion of interest-bearing provisions comprised €25 million (previous year: €26 million) in interest expense for pension and other post-employment benefit provisions plus €7 million (previous year: €2 million) in effects of interest expense and interest rate fluctuations for other provisions and corresponding overfunding.

11. Taxes

The breakdown of tax expenses by type is shown in the table below:

Income Taxes

	2017	2018
	€ million	€ million
Current taxes	(656)	(696)
Tax expense current year	(681)	(677)
Tax expense prior years	25	(19)
Deferred taxes	15	49
from temporary differences	30	51
from tax loss carryforwards and tax credits	(15)	(2)
Total	**(641)**	**(647)**

The deferred tax assets and liabilities were allocated to the items in the statements of financial position as shown in the table below:

Deferred Tax Assets and Liabilities

	Dec. 31, 2017		Dec. 31, 2018	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
	€ million	€ million	€ million	€ million
Intangible assets	62	(21)	49	(19)
Property, plant and equipment	159	(192)	144	(194)
Financial assets	2	(51)	–	(60)
Inventories	31	(2)	40	(2)
Receivables	12	(5)	4	(13)
Provisions for pensions and other post-employment benefits	479	(86)	530	(27)
Other provisions	53	(17)	91	(21)
Liabilities	113	(2)	105	(2)
Tax loss carryforwards	6	–	4	–
Total	**917**	**(376)**	**967**	**(338)**
of which noncurrent	834	(348)	881	(301)
Offsetting	(215)	215	(185)	185
Recognition	**702**	**(161)**	**782**	**(153)**

Of the total tax loss carryforwards of €17 million (previous year: €30 million), an amount of €16 million (previous year: €22 million) is expected to be usable within a foreseeable period. The decrease in loss carryforwards was mainly due to the use of existing loss carryforwards in the reporting year and tax reassessments for prior years. Deferred tax assets of €4 million (previous year: €6 million) were recognized for the amount of loss carryforwards expected to be usable.

The use of €1 million (previous year: €8 million) of tax loss carryforwards was subject to legal or economic restrictions with regard to its usability. Consequently, no deferred tax assets were recognized for this amount.

No material tax credits were recorded in either the reporting year or the prior year.

Unusable tax loss carryforwards will expire as shown in the table below:

Expiration of Unusable Tax Loss Carryforwards

	Tax loss carryforwards	
	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Within one year	–	–
Within two years	–	–
Within three years	–	–
Within four years	–	–
Within five years	–	–
Thereafter	8	1
Total	**8**	**1**

In 2018, subsidiaries that reported losses for the reporting year or the previous year recognized net deferred tax assets totaling €7 million (previous year: €5 million) from temporary differences and tax loss carryforwards. These assets were considered to be unimpaired because the companies concerned were expected to generate taxable income in the future.

In the reporting year, deferred tax liabilities of €21 million (previous year: €18 million) were recognized for planned dividend distributions by subsidiaries. No deferred tax liabilities were recognized for temporary differences of €71 million (previous year: €46 million) relating to shares in subsidiaries, as it is unlikely that these temporary differences will reverse in the foreseeable future.

The reported tax expense of €647 million (previous year: €641 million) for 2018 was €56 million higher (previous year: difference of €83 million) than the expected tax expense of €591 million (previous year: €724 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Covestro Group. This average rate was derived from the expected tax rates of the individual Group companies and amounted to 23.9% in 2018 (previous year: 27.2%). The effective tax rate was 26.1% (previous year: 24.1%).

The reconciliation of expected to actual income tax expense and of the expected to the effective tax rate for the Covestro Group is shown in the following table:

Reconciliation of Expected to Actual Income Tax Expense

	2017		2018	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	**724**	**+27.2**	**591**	**+23.9**
Reduction in taxes due to tax-free income	(15)	–0.6	(21)	–0.8
Increase in taxes due to non-tax-deductible expenses	18	+0.7	58	+2.2
Tax income (–) and expenses (+) relating to other periods	(12)	–0.5	–	–
Tax effects of change in tax rates	(94)	–3.5	(1)	–
Other tax effects	20	+0.8	20	+0.8
Actual income tax expense and effective tax rate	**641**	**+24.1**	**647**	**+26.1**

12. Earnings per Share

Earnings per share are calculated according to IAS 33 (Earnings per Share) as the relationship of the Group's income after income taxes (net income) for the fiscal year to the weighted average number of outstanding no-par voting shares of Covestro AG. Since November 21, 2017, Covestro AG has been acquiring treasury shares as part of a share buy-back program, which was terminated on December 4, 2018. In 2018, a weighted average number of outstanding no-par voting shares of 192,768,826 was used to calculate earnings per share, while in 2017, these shares amounted to 202,396,416.

Earnings per Share

	2017	2018
	€ million	€ million
Income after income taxes	2,017	1,829
of which attributable to noncontrolling interest	8	6
of which attributable to Covestro AG stockholders (net income)	2,009	1,823
	Shares	Shares
Weighted average number of outstanding no-par voting shares of Covestro AG	202,396,416	192,768,826
	€	€
Basic earnings per share	9.93	9.46
Diluted earnings per share	9.93	9.46

Notes to the Statement of Financial Position

13. Goodwill and Other Intangible Assets

Changes in Intangible Assets in 2018

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2017	**253**	**30**	**105**	**96**	**147**	**176**	**9**	**816**
Acquisitions	–	–	–	–	–	–	–	–
Capital expenditures	–	–	–	–	3	1	12	16
Retirements	–	–	–	–	(1)	(1)	–	(2)
Transfers	–	–	–	–	6	–	(6)	–
Transfers (IFRS 5)	(1)	(2)	–	–	–	(1)	–	(4)
Exchange differences	4	–	–	1	2	1	–	8
Cost of acquisition or generation, December 31, 2018	**256**	**28**	**105**	**97**	**157**	**176**	**15**	**834**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2018	–	13	85	92	147	164	–	501
Carrying amounts, December 31, 2018	**256**	**15**	**20**	**5**	**10**	**12**	**15**	**333**
Amortization and impairment losses in 2018	–	1	7	2	9	2	–	21
Amortization	–	1	7	2	9	2	–	21
Impairment losses	–	–	–	–	–	–	–	–

No impairment losses were recognized or reversed either in the reporting period or in the reference period.

The impairment testing procedure for goodwill and other intangible assets is explained under “Procedure used in global impairment testing and its impact” in note 3.

Changes in Intangible Assets in 2017

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2016	**264**	**38**	**114**	**98**	**144**	**321**	**7**	**986**
Acquisitions	2	–	–	–	–	–	–	2
Capital expenditures	–	–	–	–	2	–	9	11
Retirements	–	–	(1)	–	(3)	(140)	–	(144)
Transfers	–	–	1	–	6	–	(7)	–
Transfers (IFRS 5)	–	(6)	(8)	–	–	–	–	(14)
Exchange differences	(13)	(2)	(1)	(2)	(2)	(5)	–	(25)
Cost of acquisition or generation, December 31, 2017	**253**	**30**	**105**	**96**	**147**	**176**	**9**	**816**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2017	–	13	78	90	138	163	–	482
Carrying amounts, December 31, 2017	**253**	**17**	**27**	**6**	**9**	**13**	**9**	**334**
Amortization and impairment losses in 2017	–	1	7	2	10	5	–	25
Amortization	–	1	7	2	10	5	–	25
Impairment losses	–	–	–	–	–	–	–	–

Goodwill that is of material significance for the Covestro Group was allocated to the following cash-generating units at the end of the reporting period:

Material Goodwill by Cash-Generating Unit

	Cash-generating unit	Dec. 31, 2017	Dec. 31, 2018
Reporting segment		€ million	€ million
PUR	MDI	59	61
PUR	Polyether polyols	22	23
PCS	PCS	121	121
CAS	BMI	37	38
CAS	Resins	10	10

The transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018, led to the transfer of goodwill amounting to €6 million between the MDI and BMI cash-generating units. The prior-year figures were adjusted in the MDI (€-6 million) and BMI (€+6 million) cash-generating units.

14. Property, Plant and Equipment

Changes in Property, Plant and Equipment in 2018

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2017	**3,186**	**11,166**	**509**	**517**	**15,378**
Acquisitions	–	–	–	–	–
Capital expenditures	10	118	26	543	697
Retirements	(153)	(78)	(13)	–	(244)
Transfers	34	175	9	(218)	–
Transfers (IFRS 5)	(12)	(45)	–	–	(57)
Exchange differences	33	150	2	8	193
Cost of acquisition or construction, December 31, 2018	**3,098**	**11,486**	**533**	**850**	**15,967**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2018	1,904	9,207	447	–	11,558
Carrying amounts, December 31, 2018	**1,194**	**2,279**	**86**	**850**	**4,409**
Depreciation and impairment losses in 2018	95	471	33	–	599
Depreciation	92	467	33	–	592
Impairment losses	3	4	–	–	7
Impairment loss reversals in 2018	–	–	–	–	–

No impairment losses were reversed for property, plant, and equipment in the reporting year (previous year: €18 million).

Changes in Property, Plant and Equipment in 2017

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2016	**3,277**	**11,517**	**509**	**468**	**15,771**
Acquisitions	3	1	–	–	4
Capital expenditures	29	123	16	341	509
Retirements	(12)	(78)	(9)	(1)	(100)
Transfers	40	215	15	(270)	–
Transfers (IFRS 5)	(10)	(8)	(1)	–	(19)
Exchange differences	(141)	(604)	(21)	(21)	(787)
Cost of acquisition or construction, December 31, 2017	**3,186**	**11,166**	**509**	**517**	**15,378**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2017	1,932	8,725	425	–	11,082
Carrying amounts, December 31, 2017	**1,254**	**2,441**	**84**	**517**	**4,296**
Depreciation and impairment losses in 2017	95	493	32	–	620
Depreciation	94	488	32	–	614
Impairment losses	1	5	–	–	6
Impairment loss reversals in 2017	(8)	(10)	–	–	(18)

Borrowing costs of €4 million were capitalized in property, plant and equipment in the reporting year as part of the cost of qualifying assets (previous year: €2 million). The capitalization rate applied amounted to 1.4% on average (previous year: 1.2%).

Leasing

Property, plant and equipment includes assets with a total net value of €218 million (previous year: €247 million) held under finance leases. They comprise plant installations and machinery with a carrying amount of €134 million (previous year: €153 million), buildings with a carrying amount of €20 million (previous year: €26 million), and other property, plant and equipment with a carrying amount of €64 million (previous year: €68 million). The cost of acquisition or cost of construction of these assets as of the balance sheet date totaled €548 million (previous year: €549 million). For information on the liabilities arising from finance leases, see note 22.

In fiscal 2018, lease payments of €141 million (previous year: €102 million) were made for assets leased under operating leases as defined in IAS 17 (Leases). An overview of the maturities of payment obligations under operating leases can be found in note 25.

Lease payments for property, plant and equipment of €9 million are expected to be received in the following year from operating leases as defined in IAS 17 (Leases), not including investment property as outlined below. Lease payments totaling €5 million are expected to be received in 2020–2023, and lease payments totaling €5 million after 2023.

Investment property

The fair values of investment property are mainly determined using the income approach based on internal valuations for buildings and developed sites, and using the market comparison approach for undeveloped sites.

The total carrying amount of investment property as of December 31, 2018, amounted to €36 million (previous year: €59 million), and its fair value totaled €211 million (previous year: €280 million). The decrease in the carrying amount and fair value of investment property resulted primarily from the sale of various properties and buildings. The rental income from investment property was €26 million (previous year: €27 million), and the operating expenses directly allocable to this property amounted to €13 million (previous year: €15 million). Operating expenses for investment property not generating any rental income stood at €0 million (previous year: €1 million).

Rental income generated from the leasing of properties classified as investment properties stemmed in part from contracts for hereditary building rights and leases granted by the Covestro Group. These contracts with a weighted average remaining term of 35 years relate to space used by companies and contractual partners in the chemical industry at production sites in Germany. Based on current rental prices, around €5 million in compensation will be received annually from these long-term contracts for the use of this space in the coming years.

15. Investments Accounted for Using the Equity Method

An overview of the investments accounted for using the equity method can be found in note 5.1. The two following tables contain summarized data from the income statement and statement of financial position of the associate PO JV, LP, Wilmington (United States), which is accounted for using the equity method, and show the respective amounts recognized in the financial statements of the Covestro Group.

In 2000, the polyols business and parts of the propylene oxide (PO) production operations of Lyondell Chemicals were acquired with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a starting product for polyurethanes. As part of this strategy, a company was established to jointly produce PO (PO JV, LP, in which Covestro continues to hold a 39.4% interest). Covestro benefits from fixed long-term supply quotas/volumes of PO from this company's production.

Income Statement Data of PO JV, LP, Wilmington (United States)

	2017	2018
	€ million	€ million
Net sales	1,973	2,078
Net loss after taxes	(53)	(54)
Share of net loss after taxes	(26)	(25)
Share of total comprehensive income after taxes	**(26)**	**(25)**

Data from the Statements of Financial Position of PO JV, LP, Wilmington (United States)

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Noncurrent assets	396	399
Equity	396	415
Share of equity	**181**	**189**
Other	(5)	(9)
Carrying amount	**176**	**180**

The item "Other" mainly comprised differences arising from adjustments of data to Covestro's uniform accounting policies, purchase price allocations and their amortization in profit or loss.

The following table contains the income statement data and the carrying amount of the other associates accounted for using the equity method:

Income Statement Data and Carrying Amounts of Other Investments Accounted for Using the Equity Method

	2017	2018
	€ million	€ million
Income after taxes	8	8
Share of income after taxes	3	3
Share of total comprehensive income after taxes	**3**	**3**
Carrying amount	**32**	**34**

16. Other Financial Assets

The other financial assets were comprised as follows:

Other Financial Assets

	Dec. 31, 2017		Dec. 31, 2018	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Loans	279	267	12	2
Other investments	6	–	7	–
Receivables from derivatives	23	17	20	14
Receivables under lease agreements	8	1	9	1
Total	**316**	**285**	**48**	**17**

[1] Reference values include nonconsolidated subsidiaries restated due to the introduction of IFRS 9. See note 2.

The decrease in loans by €267 million results from bank deposits with terms of more than three months maturing.

Receivables from derivatives included €12 million (previous year: €15 million) in forward exchange contracts and €8 million (previous year: €8 million) in embedded derivatives. Further information is given in note 24.2.

Receivables under lease agreements relate to finance leases where Covestro is the lessor and the economic owner of the leased assets is the contractual partner. Receivables under lease agreements are based on expected lease payments of €35 million (previous year: €34 million) including an interest component of €26 million (previous year: €26 million). Of the expected lease payments, €1 million is due within one year (previous year: €1 million), €3 million is due within the following four years (previous year: €2 million) and €31 million is due in subsequent years (previous year: €31 million).

17. Inventories

Inventories were comprised as follows:

Inventories

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Raw materials and supplies	563	660
Work in process, finished goods and goods purchased for resale[1]	1,350	1,551
Advance payments	–	2
Total	**1,913**	**2,213**

[1] In fiscal 2018, the share of work in process amounts to approximately 19% (previous year: approximately 19%)

In fiscal 2018, impairment losses on inventories of €18 million (previous year: €13 million) and reversals of impairment losses of €3 million (previous year: €5 million) were recognized through profit or loss in cost of goods sold.

18. Other Receivables

The other receivables were comprised as follows:

Other Receivables

	Dec. 31, 2017		Dec. 31, 2018	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax receivables	189	182	174	166
Deferred charges	64	58	74	70
Contract assets[1]	–	–	52	52
Reimbursement claims	2	2	–	–
Net defined benefit asset	2	–	1	–
Receivables from employees	2	2	6	6
Miscellaneous receivables	57	37	71	52
Total	**316**	**281**	**378**	**346**

[1] The line items were added as of January 1, 2018, during the first-time adoption of IFRS 15. See note 2 for additional information.

The miscellaneous receivables included an advance payment of €12 million (previous year: €17 million), which is offset against monthly purchases. Other receivables included €35 million (previous year: €34 million) in financial receivables. The impairment losses calculated for financial receivables as of the reporting date are immaterial. In the previous year, €1 million of the financial receivables were overdue. These were less than 90 days past due.

Further information on contract assets is given in note 6.

19. Equity

The individual components of equity and changes in equity in 2017 and 2018 are presented in the Covestro Group consolidated statement of changes in equity.

Capital stock

The capital stock of Covestro AG changed as follows in 2018:

Change in Capital Stock

	Number of shares	thereof treasury shares	Shares carrying dividend rights	Capital stock
	Number	€ million	€ million	€ million
Dec. 31, 2017	**202,500,000**	**(1,668,512)**	**200,831,488**	**201**
Reacquisiton of treasury shares		(18,260,077)	(18,260,077)	(18)
Redemption of treasury shares	(19,500,000)	19,500,000	–	–
Issuance of treasury shares		133,191	133,191	–
Dec. 31, 2018	**183,000,000**	**(295,398)**	**182,704,602**	**183**

Covestro AG's capital stock as of December 31, 2018, is divided into 183,000,000 no-par value bearer shares and is fully paid up. Each share confers the right to one vote.

By Board of Management resolution of December 3, 2018, the capital stock of €203 million was reduced by €20 million to €183 million by the redemption of 19,500,000 no-par value bearer shares at a proportional share of capital stock of €1 per share.

Treasury shares

From November 21, 2017 through December 4, 2018, Covestro AG bought back a total of 19,928,589 treasury shares under the share buy-back program. In December 2018, capital stock was reduced by the redemption of 19,500,000 shares. In addition, 133,191 treasury shares were issued to Covestro AG employees under the Covestment stock participation program. As of December 31, 2018, the company held 295,398 treasury shares. This corresponds to 0.2% of the capital stock.

The total cost of the treasury shares held by Covestro AG at the end of the fiscal year was €15 million. They are valued using the FIFO method. The average price per share for the entire share buy-back program was €72.91 per share.

Authorized and conditional capital

The authorized capital and conditional capital as of December 31, 2018, were comprised as follows:

Authorized and Conditional Capital

	€ million	Purpose
Authorized capital 2015[1]	101	Increase in capital stock against cash contributions and/or contributions in kind (by October 2, 2020)
Conditional capital 2015[1]	1,500	Issue of warrants or conversion rights (by August 31, 2020)

[1] Requires Supervisory Board approval

Neither the authorized capital nor the conditional capital has been utilized to date.

Capital reserves

Covestro AG's capital reserves as of December 31, 2018, amounted to €3,480 million (previous year: €4,767 million). The decrease is mainly attributable to the reduction in capital stock by the redemption of treasury shares in December 2018.

Dividend

The dividend available for distribution is based on the distributable profit reported in the annual financial statements of Covestro AG, which were prepared according to the provisions of the German Commercial Code (HGB). The dividend proposed for the 2018 fiscal year amounts to €2.40 per share carrying dividend rights for a total distribution of €438 million based on the number of shares carrying dividend rights as of December 31, 2018, and depends on authorization by the stockholders at the Annual General Meeting. It is therefore not recognized as a liability in the consolidated financial statements. For the fiscal year 2017, a dividend of €2.20 per share carrying dividend rights was paid.

Equity attributable to noncontrolling interest

The equity attributable to noncontrolling interest mainly relates to the equity of Bayer Pearl Polyurethane Systems FZCO, Dubai (United Arab Emirates), Sumika Covestro Urethane Company, Ltd., Amagasaki (Japan), and Covestro (Taiwan) Ltd., Kaohsiung City (Taiwan).

The changes in equity attributable to noncontrolling interest are presented in the following table:

Components of Noncontrolling Interest in Equity

	2017	2018
	€ million	€ million
January 1	**27**	**30**
Change in equity not recognized in profit or loss		
Exchange differences on translation of operations outside the eurozone	(4)	2
Dividend payments	(1)	(5)
Change in equity recognized in profit or loss	**8**	**6**
December 31	**30**	**33**

20. Provisions for Pensions and Other Post-employment Benefits

Provisions for pensions and other post-employment benefits were recognized for defined benefit obligations. The expenses for defined contribution obligations are shown in note 9. The net defined benefit liability for post-employment benefit plans was accounted for as follows:

Net Defined Benefit Liability Reflected in the Statement of Financial Position

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million	€ million	€ million	€ million	€ million
Provisions for pensions and other post-employment benefits	**1,046**	**1,317**	**141**	**128**	**1,187**	**1,445**
of which Germany	940	1,189	–	–	940	1,189
of which other countries	106	128	141	128	247	256
Net defined benefit asset	**2**	**1**	**–**	**–**	**2**	**1**
of which Germany	2	1	–	–	2	1
of which other countries	–	–	–	–	–	–
Net defined benefit liability	**1,044**	**1,316**	**141**	**128**	**1,185**	**1,444**
of which Germany	938	1,188	–	–	938	1,188
of which other countries	106	128	141	128	247	256

The expenses for defined benefit plans and for other post-employment benefits included the components described as follows:

Expenses for Defined Benefit Plans

	Pension plans						Other post-employment benefit plans	
	Germany		Other countries		Total		Other countries	
	2017	2018	2017	2018	2017	2018	2017	2018
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	80	81	16	15	96	96	2	2
Past service cost	8	7	3	–	11	7	–	–
Plan settlements	–	–	1	–	1	–	–	–
Service cost	**88**	**88**	**20**	**15**	**108**	**103**	**2**	**2**
Interest expense from defined benefit obligation	58	60	24	21	82	81	5	5
Interest income from plan assets	(42)	(43)	(19)	(18)	(61)	(61)	–	–
Net interest	**16**	**17**	**5**	**3**	**21**	**20**	**5**	**5**
Total expenses	**104**	**105**	**25**	**18**	**129**	**123**	**7**	**7**

In 2018, a total of €198 million (previous year: €215 million) in effects of remeasurements of the net defined benefit liability was also recognized in other comprehensive income. Of this amount, €220 million (previous year: €215 million) relate to pension obligations and minus €22 million (previous year: €0 million) to other post-employment benefit obligations.

The changes in the net defined benefit liability for post-employment benefit plans were as follows:

Changes in Defined Benefit Obligation

			2017			2018
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**2,935**	**906**	**3,841**	**3,172**	**835**	**4,007**
Acquisitions	5	–	5	–	–	–
Change relating to carve out	4	–	4	–	–	–
Current service cost	80	18	98	81	17	98
Past service cost	8	3	11	7	–	7
(Gains)/losses from plan settlements	–	1	1	–	–	–
Net interest	58	30	88	60	26	86
Net actuarial (gain)/loss	120	19	139	109	(43)	66
of which due to change in financial assumptions	131	25	156	63	(49)	14
of which due to change in demographic assumptions	–	(3)	(3)	42	(11)	31
of which due to experience adjustments	(11)	(3)	(14)	4	17	21
Employee contributions	8	1	9	9	1	10
Payments due to plan settlements	–	(5)	(5)	–	–	–
Benefits paid out of plan assets	(22)	(34)	(56)	(24)	(45)	(69)
Benefits paid by the company	(24)	(9)	(33)	(24)	(7)	(31)
Exchange differences	–	(95)	(95)	–	41	41
December 31	**3,172**	**835**	**4,007**	**3,390**	**825**	**4,215**
of which other post-employment benefits	–	142	142	–	129	129

Changes in Fair Value of Plan Assets

	2017			2018		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**2,033**	**603**	**2,636**	**2,233**	**592**	**2,825**
Acquisitions	3	–	3	–	–	–
Change relating to carve out	3	–	3	–	–	–
Net interest	42	20	62	43	18	61
Adjustment of estimation techniques	(115)	–	(115)	–	–	–
Return or (expense) on plan assets excluding amounts recognized as interest result	(9)	48	39	(100)	(33)	(133)
Employer contributions	291	20	311	41	8	49
Employee contributions	8	1	9	9	1	10
Payments due to plan settlements	–	(5)	(5)	–	–	–
Benefits paid out of plan assets	(22)	(34)	(56)	(23)	(45)	(68)
Plan administration cost paid out of plan assets	(1)	–	(1)	(1)	–	(1)
Exchange differences	–	(61)	(61)	–	30	30
December 31	**2,233**	**592**	**2,825**	**2,202**	**571**	**2,773**
of which other post-employment benefits	–	1	1	–	1	1

Effects of the Asset Ceiling

	2017			2018		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**–**	**3**	**3**	**–**	**3**	**3**
Remeasurement of asset ceiling	–	–	–	–	(1)	(1)
December 31	**–**	**3**	**3**	**–**	**2**	**2**
of which other post-employment benefits	–	–	–	–	–	–

Development of the Net Defined Benefit Liability

	2017			2018		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**902**	**306**	**1,208**	**939**	**246**	**1,185**
Acquisitions	2	–	2	–	–	–
Change relating to carve out	1	–	1	–	–	–
Current service cost	80	18	98	81	17	98
Past service cost	8	3	11	7	–	7
(Gains)/losses from plan settlements	–	1	1	–	–	–
Net interest	16	10	26	17	8	25
Net actuarial (gain)/loss	120	19	139	109	(43)	66
Change in estimation technique	115	–	115	–	–	–
(Return) or expense on plan assets excluding amounts recognized as interest result	9	(48)	(39)	100	33	133
Remeasurement of asset ceiling	–	–	–	–	(1)	(1)
Employer contributions	(291)	(20)	(311)	(41)	(8)	(49)
Employee contributions	–	–	–	–	–	–
Payments due to plan settlements	–	–	–	–	–	–
Benefits paid out of plan assets	–	–	–	(1)	–	(1)
Benefits paid by the company	(24)	(9)	(33)	(24)	(7)	(31)
Plan administration cost paid out of plan assets	1	–	1	1	–	1
Exchange differences	–	(34)	(34)	–	11	11
December 31	**939**	**246**	**1,185**	**1,188**	**256**	**1,444**
of which other post-employment benefits	–	141	141	–	128	128

The benefit obligations pertained mainly to Germany (80%; previous year: 79%) and the United States (15%; previous year: 17%). In Germany, current employees accounted for about 62% (previous year: 63%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 31% (previous year: 30%), and former employees with vested pension rights for about 7% (previous year: 7%). In the United States, current employees accounted for about 36% (previous year: 39%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 60% (previous year: 57%), and former employees with vested pension rights for about 4% (previous year: 4%).

The actual expenses from assets of defined benefit plans for pensions or other post-employment benefits amounted to €72 million (previous year: income of €101 million) and €0 million (previous year: €0 million), respectively.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations:

Defined Benefit Obligation and Funded Status

	Pension obligations		Other post-employment benefit obligations		Total	
	2017	2018	2017	2018	2017	2018
	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	**3,865**	**4,085**	**142**	**129**	**4,007**	**4,214**
of which unfunded	62	77	140	1	202	78
of which funded	3,803	4,008	2	128	3,805	4,136
Funded status of funded obligations						
Overfunding	5	2	–	–	5	2
Underfunding	984	1,238	1	127	985	1,365

Pension entitlements and other post-employment benefit obligations

The Covestro Group provides retirement benefits for most of its employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, tax and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

Funded pension plans exist for employees in various countries. In principle, an individual investment strategy is determined for each of the Covestro Group's defined benefit pension plans taking into account the risk structure of the obligations (especially demographics, the current funded status, the structure of the expected future cash flows, interest sensitivity, biometric risks, etc.), the regulatory environment and the existing level of risk tolerance or risk capacity. A strategic target investment portfolio is then developed in line with the plan's risk structure, taking capital market factors into consideration. Further determinants are risk diversification, portfolio efficiency and the need for both a country-specific and a global risk/return profile centered on ensuring the payment of all future benefits. In principle, as the capital investment strategy for each pension plan is developed individually in light of the plan-specific conditions listed above, the investment strategies for different pension plans may vary considerably. The investment strategies are generally aligned less toward maximizing absolute returns and more toward the reasonable assurance of financing pension commitments over the long term. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) are undertaken with the aid of risk management systems.

Bayer-Pensionskasse VVaG, Leverkusen (Germany), (Bayer-Pensionskasse), is by far the most significant of the pension plans for Covestro. It has been closed to new members since January 1, 2005. This legally independent fund is regarded as a life insurance company and is therefore subject to the German Insurance Supervision Act. The benefit obligations covered by Bayer-Pensionskasse comprise retirement, surviving dependents' and disability pensions. It is financed with contributions by the active members and by their employers. The company contribution is a certain percentage of the employee contribution. This percentage is the same for all participating employers and is set by agreement between the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. It takes into account the differences between the actuarial estimates and the actual values for the factors used to determine liabilities and contributions. Bayer AG may adjust the company contribution in agreement with the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. The plan's liability is governed by Section 1, Paragraph 1, Sentence 3 of the German Law on the Improvement of Occupational Pensions (BetrAVG). This means that if the pension plan exercises its right under the articles of association to reduce benefits, each participating employer has to make up the resulting difference. Covestro is not liable for the obligations of other participating employers, even if they cease to participate in the plan.

Pension entitlements for people hired in Germany on or after January 1, 2005, are granted via Rheinische Pensionskasse VVaG, Leverkusen (Germany), (Rheinische Pensionskasse). Future pension payments from this plan are based among other things on contributions and the return on plan assets; a guaranteed interest rate applies.

The Bayer-Pensionskasse and Rheinische Pensionskasse pension obligations are classified as multi-employer plans as defined by IAS 19 (Employee Benefits). A defining characteristic of multi-employer plans is that assets from various employers not under common control are pooled at plan level and used to collectively grant pension benefits to employees. Allocation mechanisms that would permit an exact distribution of the plan assets managed by the pension plan to individual employers often do not exist, as in the case of Bayer-Pensionskasse and Rheinische Pensionskasse. Covestro therefore applies an estimation method that is adequately suited to this purpose to calculate its proportional share of the assets of the pension plans.

Another important pension provision vehicle is Metzler Trust e.V., Frankfurt am Main (Germany), (Metzler Trust). This vehicle covers further retirement provision arrangements for German employees of the Covestro Group, suchas the conversion of salary entitlements into pension entitlements, pension obligations and components of other direct commitments.

The defined benefit pension plans in the United States have been frozen for some years, and no significant new entitlements can be earned under these plans. The assets of all the U.S. pension plans are held by a master trust for reasons of efficiency. The applicable regulatory framework is based on the Employee Retirement Income Security Act (ERISA). In particular, these stipulate a statutory 80% minimum funding requirement to avoid benefit restrictions. The actuarial risks, such as investment risk, interest rate risk and longevity risk, remain with the company.

The investment strategy for German direct commitments revised in fiscal 2017 was further implemented in fiscal 2018. The changes in the investment strategy were subsequently carried out by third-party asset managers. Environmental social governance (ESG) criteria were given consideration for around 47% of the investment volume.

In 2018, the risk management concept aligned with the benefit obligations (asset-liability matching) was revised for the U.S. defined benefit pension plan. First, the actuarial obligations were analyzed and updated. Then statistical methods were applied to this information to determine an investment strategy that would ensure a suitable risk-return profile. The factors considered here included expected returns for the various asset classes and anticipated balance sheet volatility.

The other post-employment benefit obligations outside Germany are mainly related to retirees' health care benefit payments in the United States.

The fair value of the plan assets to fund pensions and other post-employment benefit obligations was as follows:

Fair Value of Plan Assets as of December 31

	Pension obligations				Other post-employment obligations	
	Germany		Other countries		Other countries	
	2017	2018	2017	2018	2017	2018
	€ million	€ million	€ million	€ million	€ million	€ million
Plan assets based on quoted prices in active markets						
Real estate and special real estate funds	–	–	19	5	–	–
Equities and equity funds	585	387	109	55	–	–
Callable debt instruments	–	–	6	7	–	–
Noncallable debt instruments	387	657	138	126	–	–
Bond funds	467	252	228	253	–	–
Derivatives	3	2	–	–	–	–
Cash and cash equivalents	46	98	8	8	–	–
Other	–	–	2	11	–	–
	1,488	**1,396**	**510**	**465**	**–**	**–**
Plan assets for which quoted prices in active markets are not available						
Real estate and special real estate funds	107	110	–	-	–	–
Equities and equity funds	20	21	–	–	–	–
Callable debt instruments	297	262	–	–	–	–
Noncallable debt instruments	309	306	–	–	–	–
Bond funds	–	93	–	–	–	–
Derivatives	–	–	–	–	–	–
Other	12	14	81	103	1	1
	745	**806**	**81**	**103**	**1**	**1**
Total plan assets	**2,233**	**2,202**	**591**	**568**	**1**	**1**

No properties leased by Group companies were included in the fair value of the domestic plan assets. Likewise there were no Covestro shares or bonds held through funds. The other plan assets comprise mortgage loans granted, other receivables and qualified insurance policies.

Risks

The risks from defined benefit plans arise partly from the defined benefit obligations and partly from the investment in plan assets. The risks lie in the possibility that higher direct pension payments will have to be made to the beneficiaries and/or that additional contributions will have to be made to plan assets in order to meet current and future pension obligations.

Demographic/biometric risks

Since a large proportion of the defined benefit obligations comprises lifelong pensions or surviving dependents' pensions, longer claim periods or earlier claims may result in higher benefit obligations, higher benefit expense and/or higher pension payments than previously anticipated.

Investment risks

If the actual return on plan assets were below the return anticipated on the basis of the discount rate, the net defined benefit liability would increase, assuming there were no changes in other parameters. This could happen as a result of a drop in share prices, increases in market rates of interest, default of individual debtors or the purchase of low-risk but low-interest bonds, for example.

Interest rate risks

Declining capital market interest rates, especially for high-quality corporate bonds, would increase the defined benefit obligation. This effect would be at least proportionately offset by the ensuing increase in the market values of the debt instruments held in plan assets.

Measurement parameters and their sensitivities

The bond portfolio consists exclusively of high-quality corporate bonds with a rating of at least AA or AAA. The portfolio does not include any government-guaranteed or secured bonds. The following weighted parameters were used to measure the pension obligations as of December 31 and the expense for pensions and other post-employment benefits in the respective reporting year.

Parameters for Benefit Obligations

	Germany		Other countries		Total	
	2017	2018	2017	2018	2017	2018
	%	%	%	%	%	%
Pension obligations						
Discount rate	1.90	1.80	3.16	3.55	2.15	2.10
Projected future salary increases	2.75	2.75	3.22	3.17	2.85	2.80
Projected future benefit increases	1.70	1.70	3.67	3.40	2.05	2.00
Other post-employment benefit obligations						
Discount rate	–	–	3.50	4.20	3.50	4.20

In Germany, the Heubeck 2018 G mortality tables were used, in the United States the adjusted RP-2014 Healthy Mortality Tables. The parameters for measuring the benefit expense are the same as those used to measure the benefit obligations in the most recent annual financial statements.

The parameter sensitivities were computed by expert actuaries based on a detailed evaluation similar to that performed to determine the net defined benefit liability. Altering individual parameters by 0.5 percentage points (mortality by 10% per beneficiary) while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of the end of fiscal year 2018 as follows:

Sensitivity Analysis of Benefit Obligations

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(329)	382	(37)	40	(366)	422
0.5 percentage points change in projected future salary increases	31	(28)	3	(2)	34	(30)
0.5 percentage points change in projected future benefit increases	199	(180)	2	(2)	201	(182)
10 % change in mortality	(98)	109	(12)	14	(110)	123
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(8)	8	(8)	8
10 % change in mortality	–	–	(3)	4	(3)	4

Sensitivity Analysis of Benefit Obligations (previous year)

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(310)	360	(38)	41	(348)	401
0.5 percentage points change in projected future salary increases	31	(28)	4	(4)	35	(32)
0.5 percentage points change in projected future benefit increases	187	(169)	2	(1)	189	(170)
10 % change in mortality	(89)	99	(13)	14	(102)	113
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(9)	10	(9)	10
10 % change in mortality	–	–	(4)	4	(4)	4

Provisions are also set up for the obligations, mainly of the U.S. subsidiary, to provide post-employment benefits in the form of health care cost payments to retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 6% (previous year: 7%), which should gradually decline to 5% (previous year: 5%) by 2023. The following table shows the impact on other post-employment benefit obligations and total benefit expense of a one percentage point change in the assumed cost increase rates:

Sensitivity Analysis of Health Care Cost Increases

	2017		2018	
	Increase of one percentage point	Decrease of one percentage point	Increase of one percentage point	Decrease of one percentage point
	€ million	€ million	€ million	€ million
Impact on other post-employment benefit obligations	14	(12)	12	(10)

Employer contributions made or expected

The following payments or transfers correspond to the employer contributions made or expected to be made to funded benefit plans:

Employer Contributions Made or Expected

	Germany				Other countries			
	2017	2018 expected	2018	2019 expected	2017	2018 expected	2018	2019 expected
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	291	38	41	37	20	22	8	12
Other post-employment benefit obligations	–	–	–	–	–	–	–	–
Total	**291**	**38**	**41**	**37**	**20**	**22**	**8**	**12**

Pensions and other post-employment benefits payable in the future from funded and unfunded plans are estimated as follows:

Future Benefit Payments

	Payments out of plan assets				Payments by the Company			
	Pensions		Other post-employment benefits		Pensions		Other post-employment benefits	
	Germany	Other countries	Other countries	Total	Germany	Other countries	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2019	27	42	–	69	29	4	6	39
2020	29	41	–	70	31	5	6	42
2021	32	42	–	74	34	6	6	46
2022	35	43	–	78	36	6	7	49
2023	38	42	–	80	39	7	7	53
2024–2028	238	227	1	466	236	44	39	319

The weighted average term of the pension obligations is 21.6 years (previous year: 21.6 years) in Germany and 11.4 years (previous year: 11.9 years) in other countries. The weighted average term of the obligations for other post-employment benefits in other countries is 11.9 years (previous year: 12.2 years).

21. Other Provisions

Changes in the various provision categories in 2018 were as follows:

Changes in Other Provisions

	Taxes	Environmental protection	Restructuring	Trade-related commitments	Litigations	Personnel commitments	Miscellaneous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2017	**5**	**44**	**3**	**37**	**8**	**634**	**27**	**758**
IFRS 15 adjustment[1]	–	–	–	(28)	–	–	–	(28)
Additions	12	4	24	12	3	503	38	596
Utilization	(5)	(4)	(1)	(15)	(5)	(503)	(24)	(557)
Reversal	(3)	(2)	–	(1)	(3)	(30)	(8)	(47)
Interest cost	–	–	–	–	–	4	–	4
Exchange differences	1	2	–	2	1	2	(4)	4
December 31, 2018	**10**	**44**	**26**	**7**	**4**	**610**	**29**	**730**
thereof long-term	–	42	18	–	1	166	10	237

[1] See note 2 and 23 for further information.

Taxes
Provisions for taxes comprise provisions for other types of taxes amounting to €10 million (previous year: €5 million).

Environmental protection
Provisions for environmental protection mainly relate to the rehabilitation of contaminated land and recultivation of landfills as well as water protection measures at sites in the United States and Spain.

Restructuring
As of December 31, 2018, provisions for restructuring included €26 million (previous year: €3 million) for severance payments. The additions resulted primarily from the "Perspective" efficiency program, which aims to improve the cost structures in the medium term.

Personnel commitments
Personnel-related provisions are mainly those recorded for variable one-time, short-term and long-term incentive payments and other personnel-related provisions.

Long-term incentive programs
The long-term incentive programs of the Covestro Group entail commitments offered collectively to different groups of employees. In principle, all obligations from long-term compensation programs are covered by provisions. As of the reporting date, their amount corresponds to the fair value of the share of the respective commitments to the employee groups. All resulting valuation adjustments are recognized in profit or loss.

Senior executives and other managerial employees at Covestro have been entitled to participate in the stock-based compensation program **Prisma**. A percentage of the employee's annual base salary – based on his/her position – is defined as a target for variable payments (Prisma target opportunity). The payout is calculated by multiplying the Prisma target opportunity by the total shareholder return (total of Covestro's closing share price[3] and all of the dividends distributed in the respective performance period divided by the opening share price) and the performance of Covestro stock relative to the STOXX® Europe 600 Chemicals benchmark index. The payout is capped at 200% of the Prisma target opportunity. If Covestro's shares were to significantly underperform the STOXX® Europe 600 Chemicals index (e.g. if the price of the stock went down while the index increased in value), Prisma target attainment could amount to zero, in which case there would be no payout. Payouts are made regularly following each four-year performance period; the first award will be in January 2020 for the performance period ending on December 31, 2019.

[3] Calculated as the average price for the last 30 days of trading in the relevant performance period

In addition to Prisma, Covestro continues to run the Bayer Group's formerly stock-based **Aspire** incentive program for performance periods that started prior to January 1, 2016. Senior executives were entitled to participate in Aspire I on the condition that they purchased a certain number of Bayer shares – determined for each individual according to specific guidelines – and retained them for the full term of the program. A percentage of the executive's annual base salary – based on his/her position – was defined as a target for variable payments (Aspire target opportunity). Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX® 50 benchmark index during a four-year performance period, participants were granted an award of up to 300% of their individual Aspire target opportunity. Middle management and managerial employees were entitled to participate in Aspire II. The terms of Aspire II generally matched those of Aspire I, except that Aspire II did not require a personal investment in Bayer stock, and the exclusive performance measure was Bayer's absolute share price performance. Aspire II payouts were capped at 250% of the Aspire target opportunity.

In order to decouple the Aspire payouts from Bayer's share price performance, which can no longer be significantly influenced by the Covestro Group's employees, the average price of Bayer stock and the benchmark calculated from the closing prices for the last 30 trading days of 2015 was stipulated as the binding closing price for the remaining Aspire I and Aspire II tranches. However, the vesting phase will continue to run until the end of the respective performance period. A minimum payout of 100% of the Aspire target opportunity was guaranteed for all tranches. As a result, the payout for the last remaining tranche 2015–2018, which was payable in January 2019, amounts to 100% for both Aspire programs.

The fair value of the stock-based incentive program Prisma recognized in the provision amounted to €41 million as of December 31, 2018 (previous year: €36 million).

The fair value of the formerly stock-based incentive program Aspire recognized in the provision amounted to €16 million as of December 31, 2018 (previous year: €31 million) and was paid out at the beginning of 2019 (payout in the previous year: €18 million).

The net expense for all long-term incentive programs amounted to €11 million (previous year: €28 million), of which €4 million (previous year: €3 million) was attributable to the stock participation program Covestment, explained in greater detail in the following section.

The fair value of obligations under the Prisma program was calculated using the Monte Carlo simulation method on the basis of the following key parameters pertaining to the reporting date:

Monte Carlo Simulation Parameters

	Tranche		
	2016	2017	2018
Risk-free interest rate for the 2016 tranche	–0.29%	–0.22%	–0.10%
Stock price volatility	+34.29%	+30.09%	+30.56%
STOXX® Europe 600 Chemicals volatility	+16.09%	+13.79%	+15.09%
Correlation between stock price and STOXX® Europe 600 Chemicals	0.69	0.58	0.59

For the Aspire I and Aspire II long-term incentive programs, the fair value of the obligation was calculated based on a Monte Carlo simulation in previous years and until these programs were locked in 2015.

Stock participation program (Covestment)

Under the Covestment program, employees of selected Group companies could invest a fixed amount of their compensation in Covestro shares in 2018, which Covestro supplemented through an employer subsidy. The discount granted for 2018 was generally 30% of the subscription amount and is set every year. The total individual investment amount was capped at €3,600, depending on the Group company and the employee's position. Overall, around 75% of Covestro's global workforce was authorized to participate in Covestment.

Around 226,000 shares were purchased by employees under the Covestment program in 2018. Depending on the Group company, the purchased shares are subject to a vesting period of at least one year from the subscription date.

22. Financing and Financial Liabilities

The bonds issued through the Debt Issuance Program launched in the first quarter of 2016 are a key form of external financing. Bonds with a total nominal volume of €1,500 million were placed, of which €500 million was repaid as scheduled in March 2018. As of the reporting date, Covestro still has two fixed-rate tranches with terms until October 2021 (a coupon of 1.00% and a volume of €500 million) and September 2024 (a coupon of 1.75% and a volume of €500 million) in its portfolio. Both bonds received a Baa1 rating from Moody's Investors Service, London (United Kingdom).

Additional liquidity is provided by a multicurrency revolving credit facility totaling €1,500 million with a term until September 2022. No loans had been drawn against this syndicated credit facility as of December 31, 2018. The Group had total credit facilities of €1,524 million (previous year: €1,569 million) at its disposal. Of this amount, €24 million (previous year: €69 million) was drawn down while €1,500 million (previous year: €1,500 million) remained unused.

Financial liabilities were comprised as follows:

Financial Liabilities

	Dec. 31, 2017		Dec. 31, 2018	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds	1,495	500	996	–
Liabilities to banks	69	46	24	18
Leasing liabilities	223	29	193	29
Liabilities from derivatives	9	8	12	12
Total	**1,796**	**583**	**1,225**	**59**

Maturities of Financial Liabilities

	Dec. 31, 2017		Dec. 31, 2018
Maturity	€ million	**Maturity**	€ million
2018	583	2019	59
2019	46	2020	32
2020	31	2021	529
2021	529	2022	33
2022	33	2023	27
2023 or later	574	2024 or later	545
Total	**1,796**	**Total**	**1,225**

The financial liabilities of the Covestro Group are mainly unsecured.

Leasing liabilities

Under finance leases, lease payments of €250 million (previous year: €295 million) are to be made to the respective lessors in future years; of this amount, the interest component amounts to €57 million (previous year: €72 million). The liabilities under finance leases mature as follows:

Leasing Liabilities

	Dec. 31, 2017				Dec. 31, 2018		
	Lease payments	Interest component	Leasing liabilities		Lease payments	Interest component	Leasing liabilities
Maturity	€ million	€ million	€ million	Maturity	€ million	€ million	€ million
2018	43	14	29	2019	41	12	29
2019	41	12	29	2020	41	10	31
2020	41	11	30	2021	39	9	30
2021	39	9	30	2022	38	6	32
2022	39	7	32	2023	31	5	26
2023 or later	92	19	73	2024 or later	60	15	45
Total	**295**	**72**	**223**	**Total**	**250**	**57**	**193**

Further information on the accounting for liabilities from derivatives is given in note 24.2.

23. Other Liabilities

Other liabilities were comprised as follows:

Other Liabilities

	Dec. 31, 2017		Dec. 31, 2018	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax liabilities	111	111	96	96
Deferred income	11	11	1	1
Grants and subsidies received from governments	13	5	13	7
Liabilities to employees	38	36	26	24
Liabilities for social expenses	17	16	17	17
Accrued interest on liabilities	6	6	5	5
Contract liabilities[1]	–	–	28	28
Refund liabilities[1]	–	–	33	32
Miscellaneous liabilities	25	15	21	12
Total	**221**	**200**	**240**	**222**

[1] The balance sheet items were added as of January 1, 2018, in the course of the first-time adoption of IFRS 15. See note 2 for additional information.

The miscellaneous liabilities included €4 million (previous year: €5 million) in liabilities from derivatives.

Further information on contract liabilities is given in note 6.

24. Financial Instruments

24.1 Financial Instruments by Category

The following tables show the carrying amounts and fair values of financial assets and liabilities as of December 31, 2018, based on IFRS 9 and as of December 31, 2017, based on IAS 39. The effects of the changes in the classification and measurement of financial instruments resulting from the introduction of IFRS 9 are outlined in note 2.

Carrying Amounts of Financial Instruments According to IFRS 9 and Their Fair Values

	December 31, 2018					
		Measurement according to IFRS 9				
	Carrying amount	Carried at amortized cost	Fair value through other comprehensive income	Fair value recognized in profit or loss	Measurement according to IAS 17	Fair value
	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets						
Trade accounts receivable	1,786	1,786				1,786
Other financial assets	48					
Loans	12	12				12
Derivatives that do not qualify for hedge accounting	20			20		20
Receivables under finance lease agreements	9				9	16
Other investments	7		7			7
Other receivables[1]	35	35				35
Cash and cash equivalents	865	865				865
Financial liabilities						
Financial debts	1,225					
Bonds	996	996				1,030
Liabilities under finance lease agreements	193				193	231
Liabilities to banks	24	24				24
Derivatives that do not qualify for hedge accounting	12			12		12
Trade accounts payable	1,637	1,637				1,637
Other liabilities[2]	26					
Derivatives that do not qualify for hedge accounting	4			4		4
Miscellaneous other liabilities	22	22				22

[1] The other receivables recognized in the consolidated statement of financial position also include nonfinancial assets totaling €343 million
[2] The other liabilities recognized in the consolidated statement of financial position also include nonfinancial liabilities totaling €214 million

Carrying Amounts of Financial Instruments According to IAS 39 and Their Fair Values

					Dec. 31, 2017
		Measurement according to IAS 39			
	Carrying amount	Carried at amortized cost	Fair value through other comprehensive income	Fair value recognized in profit or loss	Fair value
	€ million	€ million	€ million	€ million	€ million
Assets					
Trade accounts receivable	1,882				
Loans and receivables	1,882	1,882			1,882
Other financial assets	316				
Loans and receivables	279	279			279
Available-for-sale financial assets	6	4	2		6
Derivatives that do not qualify for hedge accounting	23			23	23
Receivables under finance lease agreements[1]	8				15
Other receivables	316				
Loans and receivables	34	34			34
Nonfinancial assets	282				
Cash and cash equivalents	1,232				
Loans and receivables	1,232	1,232			1,232
Liabilities					
Financial liabilities	1,796				
Carried at amortized cost	1,564	1,564			1,627
Derivatives that do not qualify for hedge accounting	9			9	9
Liabilities under finance lease agreements[1]	223				262
Trade accounts payable	1,618				
Carried at amortized cost	1,581	1,581			1,581
Nonfinancial liabilities	37				
Other liabilities	221				
Carried at amortized cost	28	28			28
Derivatives that do not qualify for hedge accounting	5			5	5
Nonfinancial liabilities	188				

[1] Measurement in accordance with IAS 17

The fair values of financial instruments are determined and reported in accordance with IFRS 13 (Fair Value Measurement) on the basis of the fair value hierarchy described below:

Level 1 covers fair values determined on the basis of unadjusted prices which exist in active markets.

Level 2 comprises fair values determined on the basis of parameters which are observable in an active market.

Level 3 applies to fair values determined using parameters whose input factors are not based on observable market data.

The following table shows the assignment of the financial instruments to the three-level fair value hierarchy:

Fair Value Hierarchy of Financial Instruments

	Fair value Dec. 31, 2017	Level 1	Level 2	Level 3	Fair value Dec. 31, 2018	Level 1	Level 2	Level 3
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets carried at fair value								
Other investments	2	2			7	2		5
Derivatives that do not qualify for hedge accounting	23		15	8	20		12	8
Financial assets not carried at fair value								
Receivables under lease agreements	15			15	16			16
Financial liabilities carried at fair value								
Derivatives that do not qualify for hedge accounting	14		9	5	16		12	4
Financial liabilities not carried at fair value								
Bonds	1,551	1,551			1,030	1,030		
Liabilities under finance lease agreements	262		262		231		231	
Other financial liabilities	76		76		24		24	

During the fiscal year, no transfers were made between the levels of the fair value hierarchy.

Because of the generally short maturities of cash and cash equivalents, loans, trade accounts receivable and payable, and other receivables and liabilities, their carrying amounts do not significantly differ from the fair values.

The fair value of the bonds issued by Covestro AG is based on quoted, unadjusted prices in active markets and therefore assigned to Level 1 of the fair value hierarchy. The fair value of some of the other investments is also based on quoted prices in active markets (Level 1).

The fair values stated for noncurrent financial assets and liabilities are the present values of the respective future cash inflows or outflows. These are determined by discounting the cash flows at a reporting-date interest rate that takes into account the term of the assets or liabilities and the creditworthiness of the counterparty. For this reason, these values are assigned to Level 2 of the fair value hierarchy.

The fair values of derivatives for which no publicly quoted market prices exist are determined using valuation techniques based on observable market data as of the reporting date (Level 2). Credit value adjustments and debt value adjustments are determined to allow for both the contracting party's credit risk and Covestro's own credit risk. The currency forward contracts are measured individually at their forward rates or forward prices as of the reporting date. These depend on spot rates or prices including time spreads.

Fair values measured using unobservable inputs are categorized within Level 3 of the fair value hierarchy. The fair values of noncurrent leasing receivables, reported for information purposes, are calculated on the basis of interest curves observable in the market. Additionally, a discount for cash flows that are very far in the future was applied as an unobservable factor.

As of January 1, 2018, other investments comprising exclusively equity instruments are accounted for at fair value directly in other comprehensive income because they are held for the long term for strategic reasons. The fair value of some of the other investments is based on quoted prices in active markets (Level 1). Where there are no quoted, unadjusted prices in an active market for identical or similar instruments, and there is no suitable valuation method where all major input factors are based on observable market data, the fair value of the other investments is determined using a valuation method where the main input factors are not based on observable market data (Level 3). The valuation of certain other investments is based on available performance indicators. In the previous fiscal year, other investments were classified under the measurement category of "available-for-sale financial assets".

Further, the fair values of embedded derivatives are determined on the basis of unobservable input factors (Level 3). They are separated from their respective host contracts, which are purchase agreements relating to the operational business. The embedded derivatives cause the cash flows from the contracts to vary with fluctuations in exchange rates, or regional and industry-specific price indices, for example. The internal measurement of embedded derivatives is mainly performed using the discounted cash flow method, which is based on unobservable inputs. These include prices or price indices derived from market data.

The table below shows the reconciliation of Level 3 financial instruments:

Changes in the Net Amount of Financial Assets and Liabilities Recognized at Fair Value Based on Unobservable Inputs

	2017	2018
	€ million	€ million
Net carrying amounts, Jan. 1	**3**	**7**
Gains (losses) recognized in profit or loss	–	1
of which related to assets/liabilities recognized in the statement of financial position	–	1
Gains (losses) recognized outside profit or loss	–	1
Additions of assets (liabilities)	–	–
Settlements of (assets) liabilities	–	–
Reclassifications	–	–
Net carrying amounts, Dec. 31	**3**	**9**

[1] Value 1st of January 2018 restated due to the introduction of IFRS 9. Other investments totaling €4 million allocated to Level 3 were added.

Gains and losses from Level 3 financial instruments recognized in profit or loss result primarily from embedded derivatives and are reported in other operating expenses or income.

Other financial investments amount to €7 million, of which €3 million is attributable to Hi-Bis GmbH, Bitterfeld-Wolfen (Germany) and €1 million to Salzgewinnungsgesellschaft Westfalen mbH & Co. KG, Hanover (Germany). In fiscal 2018, the Covestro Group received dividends of €1 million from other financial investments, all of which was attributable to the two previously mentioned companies.

The following table shows income, expenses, gains and losses from financial instruments assigned to the measurement categories in accordance with IFRS 9 for 2018 and in accordance with IAS 39 for 2017:

Net Result by Measurement Category in Accordance with IFRS 9

	2018
	€ million
Financial assets at amortized costs	46
of which net interest	6
Fair value through other comprehensive income	1
of which net interest	–
Financial instruments measured at fair value through profit or loss (derivatives only)	(36)
of which net interest	(19)
Liabilities carried at amortized cost	(56)
of which net interest	(31)

Net Result by Measurement Category in Accordance with IAS 39

	2017
	€ million
Loans and receivables	(169)
of which net interest	3
Available-for-sale financial assets	1
of which net interest	–
Financial instruments measured at fair value through profit or loss (derivatives only)	45
of which net interest	(62)
Liabilities carried at amortized cost	17
of which net interest	(40)

24.2 Financial Risk Management and Information on Derivatives

Capital management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Moody’s Investors Service, London (United Kingdom), currently assigns Covestro AG an investment-grade rating of Baa1 with a stable outlook. Covestro uses the debt ratios published by prominent rating agencies in managing its capital and pursues a conservative debt policy along with a balanced financing portfolio. This is based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

Credit risk

Credit risk is the risk of a loss for the Covestro Group when a counterparty is unable to meet its payment obligations arising from a financial instrument as contractually stipulated. The payment obligations to the Covestro Group primarily comprise trade accounts receivable, debt instruments, other financial assets and contract assets.

The carrying amount of the financial assets and the contract assets represents the maximum credit risk exposure.

The impairment loss for financial assets and contract assets recognized during the year amounted to €1 million net. Impairment losses for trade accounts receivable make up nearly all of this amount.

Trade accounts receivable and contract assets

The credit risk the Covestro Group is exposed to through its trade accounts receivable and contract assets depends largely on the creditworthiness of the customer. In order to manage this risk, the Covestro Group's Credit Management implemented a process that uses internal and external data to assess each customer in terms of its creditworthiness. Quantitative and qualitative data are evaluated during the assessment process. The assessment reflects financial data, ratings, payment history and data on the customer's environment. The customer is allocated to one of five risk categories on the basis of the final assessment. The categories range from A to E, with risk category A representing the most creditworthy companies and risk category E the least.

Meaningful data is used to determine an expected loss rate for each risk category. Data such as default probabilities from rating agencies and credit insurance firms, historical impairment losses recognized by the Covestro Group and the empirical data from Credit Management are used to determine the expected loss rates. In addition, forward-looking information such as the country rating is also used in determining the expected loss rates. Every year, the expected and actual losses are compared (backtesting).

The following table presents the gross carrying amounts and the expected losses for trade receivables and contract assets as of December 31, 2018:

Expected Credit Loss by Category

	Cluster					
	A	B	C	D	E	Total
Expected loss rate (%)	0.03	0.14	0.51	1.79	9.37	
Gross amount (€ million)	421	567	637	206	15	1,846
Expected loss (€ million)	–	(1)	(3)	(4)	(1)	(9)

The accumulated impairment losses amounted to €33 million for those customers that the Covestro Group considers credit impaired on the basis of this assessment. The corresponding gross carrying amount amounted to €35 million. Indicators that trade accounts receivable and contract assets are at risk of credit impairment include significant financial difficulties of the customer and breach of contract such as overdue payments. Determining that a customer is credit impaired does not occur automatically when payments are overdue for more than 90 days, but is instead always based on the individual assessment conducted by Credit Management.

Total impairment losses for trade accounts receivable and contract assets changed as follows during the fiscal year:

Reconciliation Accumulated Impairment Losses

	2018
	€ million
Accumulated impairment losses 1st of January according to IAS 39	**(41)**
First time application	(10)
Accumulated impairment losses 1st of January according to IFRS 9	**(51)**
Net remeasurement impairment loss	(1)
Write offs	10
Foreign exchange differences	–
Accumulated impairment losses 31st of December	**(42)**

The Covestro Group limits the credit risk exposure from trade accounts receivable by stipulating the shortest payment terms possible. In addition, the Covestro Group has a widely diversified customer portfolio. In order to avoid concentration of risk, customer limits are set, regularly monitored and exceeded only in agreement with Credit Management.

Receivables of €44 million (previous year: €50 million) are secured mainly by letters of credit.

Comparative disclosures in accordance with IAS 39

Changes in impairment losses on trade accounts receivable in the previous year were as follows:

Impairments of Trade Accounts Receivable

	2017
	€ million
Accumulated impairment losses, January 1	**(49)**
Impairment losses in the reporting period	(4)
Impairment loss reversals or utilization	10
Exchange differences	2
Accumulated impairment losses, December 31	**(41)**

As of December 31, 2017, trade accounts receivable amounting to €1,880 million were not impaired. As of the reporting date, €182 million of these unimpaired trade accounts receivable was past due or due immediately.

The gross carrying amount of impaired trade accounts receivable was €43 million. The impairment losses recognized on these assets totaled €41 million, resulting in a net carrying amount of €2 million.

The following table summarizes the breakdown of trade accounts receivable according to the criteria of impairment and past-due status:

Impairment and Past-Due Trade Accounts Receivable

		Of which neither impaired nor past-due at the closing date	Of which unimpaired but past-due at the closing date				Of which impaired at the closing date
	Carrying amount		up to 3 months	3–6 months	6–12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Dec. 31, 2017	1,882	1,698	175	4	2	1	2

Debt instruments

The Covestro Group pursues a conservative investment policy based on a strategy of maintaining liquidity and safeguarding value. Consequently, the investments are limited to counterparties with investment grade ratings, simple debt instruments and short-term investment horizons. Credit risks, particularly concentration of risk with individual counterparties, are managed by means of a Group-wide limit system in conjunction with ongoing monitoring.

The general approach for calculating and recording impairment losses in accordance with IFRS 9 applies to all debt instruments, loan commitments and financial guarantees recognized at amortized cost or at their fair values directly in equity. Covestro uses a general, three-stage approach for measuring the risk provision for expected credit losses as follows:

- Stage 1: The risk provision is calculated as the 12-month expected credit loss, whereby the default probability is derived from historical data published by prominent rating agencies. The Covestro Group assumes that investment grade ratings imply a low level of credit risk.

- Stage 2: The amount of the risk provision is the expected credit loss over the lifetime of the debt instrument if the credit risk has increased significantly since its initial recognition. Changes in credit risk are assessed using the actual payment history and external information. Whenever available, Covestro uses credit default swap prices and other forward-looking information such as ratings outlooks in addition to external ratings.

- Stage 3: If Covestro determines that the collectability of a debt instrument has deteriorated, it is reclassified to stage 3. This is the case, for instance, when a counterparty has obtained insolvency status; when there is sufficient information available to show that the counterparty has applied for insolvency proceedings; or when debt instruments are more than 90 days overdue.

No reclassification between the stages of the general impairment approach took place during the fiscal year. The Covestro Group holds no collateral to secure its debt instruments.

Because of the low credit risk profile, the Covestro Group is not exposed to significant credit risk from debt instruments. The risk provision calculated using the general approach is immaterial both overall and for the individual stages.

Currency risks

Currency opportunities and risks for the Covestro Group result from changes in exchange rates and the related changes in the value of financial instruments (including receivables and payables) and of anticipated payment receipts and disbursements in foreign currencies. Material receivables and payables in liquid currencies from operating and financial activities are generally fully hedged through forward exchange contracts. A value-at-risk approach is used to manage foreign currency exposures arising from planned receivables and liabilities. Anticipated foreign currency exposures were not hedged in 2018 since they did not exceed the limit defined for the Group. They will be rehedged using forward contracts if the foreign currency risk increases significantly. The extent of the currency risk is represented below by a sensitivity analysis.

The currency risk shown in the sensitivity analysis results from the following:

- The unsecured portion of receivables and payables in nonfunctional currencies
- Unsecured bank deposits and liabilities to banks in nonfunctional currencies
- Currency risks from embedded derivatives

Sensitivities were determined based on a hypothetical scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. Under this scenario, the estimated hypothetical gains recognized in profit or loss as of December 31, 2018, would have totaled €18.1 million (previous year: gains of €7.9 million). The table below shows the distribution of these effects among the individual currencies:

Sensitivity by Currency

	2017		2018
Currency	€ million	Currency	€ million
CNY	5.2	CNY	14.0
USD	1.9	USD	3.3
DKK	(0.4)	MXN	0.6
Other	1.2	Other	0.2
Total	**7.9**	**Total**	**18.1**

Liquidity risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as internal and external financing. A syndicated revolving credit facility offers additional financial flexibility.

The liquidity risks to which the Covestro Group was exposed from its financial instruments can be divided into obligations for interest and repayment installments on financial liabilities and payment obligations arising from derivatives. The following tables show the maturity structure of the nondiscounted contractually agreed payments arising from these line items:

Maturity Analysis of Financial Liabilities and Derivative Financial Instruments

	Carrying amount	Contractual cash flows					
	Dec. 31, 2018	2019	2020	2021	2022	2023	after 2023
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	996	14	14	514	9	9	509
Liabilities to banks	24	18	1	1	1	1	2
Remaining liabilities	193	42	41	39	38	31	59
Trade accounts payable	1,637	1,637	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	5	5	–	–	–	–	–
Remaining liabilities	17	11	–	–	–	–	6
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	16	13	1	1	1	–	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	20	14	2	2	1	1	–
Loan commitments	–	208	–	–	–	–	–

	Carrying amount	Contractual cash flows					
	Dec. 31, 2017	2018	2019	2020	2021	2022	after 2022
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	1,495	511	14	14	514	9	518
Liabilities to banks	69	49	17	1	1	1	3
Remaining liabilities	223	43	41	41	39	39	92
Trade accounts payable	1,581	1,581	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	6	6	–	–	–	–	–
Remaining liabilities	22	15	–	–	–	–	7
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	14	9	2	1	1	1	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	23	13	7	1	1	1	–
Loan commitments	–	208	–	–	–	–	–

In addition to the primary financial liabilities and derivative financial instruments, there was an obligation under certain conditions to make a loan of €208 million (previous year: €208 million) to the effective initial fund of Bayer-Pensionskasse VVaG, which may result in payments by Covestro AG in subsequent years. This is reflected in the loan commitments shown in the table above. Further information is given in note 25.

In this analysis, foreign currencies were translated at the closing rates. Derivative financial instruments are reported as net amounts.

Interest rate risks

Interest rate opportunities and risks for the Covestro Group result from changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

A sensitivity analysis based on our net floating-rate receivables and payables position at year end 2018, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: A hypothetical increase of 100 basis points, or one percentage point, in these interest rates (assuming constant currency exchange rates) would have raised our interest expense by €0.0 million (previous year: €0.2 million).

Raw material price risks

The Covestro Group requires significant quantities of energy and petrochemical feedstocks for its production processes. Procurement prices for energy and raw materials may fluctuate significantly. Important raw materials are procured on the basis of long-term supply agreements and an active supplier management to minimize substantial price fluctuations. In steam and electricity generation, we aim for market-based price indexing, a diversification of fuels and a mix of external procurement and captive production to minimize the price fluctuation risk for energies. During the past fiscal year, derivative financial instruments were not used to hedge raw material price risks.

Derivatives

As of the reporting date, the nominal volume of the forward exchange contracts used to hedge currency risk amounted to €1,608 million (previous year: €1,633 million). Other market risks are not hedged as of the reporting date.

Covestro has entered into master netting agreements or similar agreements for derivative financial instruments. These take effect in particular in the event of the insolvency of one of the contractual partners involved. The derivative financial instruments covered by netting agreements from the perspective of the Covestro Group are presented in the table below:

Disclosures for Netting of Financial Assets and Liabilities

	Gross amounts of financial assets / liabilities	Net amounts of financial assets / liabilities presented in the balance sheet	Respective amounts not netted in the balance sheet	Net amounts
	€ million	€ million	€ million	€ million
Dec. 31, 2018				
Receivables from derivatives	12	12	5	7
Liabilities from derivatives	12	12	5	7
Dec. 31, 2017				
Receivables from derivatives	15	15	4	11
Liabilities from derivatives	9	9	4	5

25. Contingent Liabilities and Other Financial Commitments

Contingent liabilities

The following table presents warranty contracts as well as other contingent liabilities existing as of the reporting date:

Contingent Liabilities

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Warranties	1	1
Other contingent liabilities	6	3
Total	**7**	**4**

Other financial commitments

The other financial commitments were as follows:

Other Financial Commitments

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Operating leases	424	450
Orders already placed for started or planned investment projects	187	248
Loan commitments to Bayer-Pensionskasse VVaG	208	208
Total	**819**	**906**

The nondiscounted future minimum lease payments relating to operating leases were as follows:

Operating Leases

	Dec. 31, 2017		Dec. 31, 2018
Maturing in	€ million	**Maturing in**	€ million
2018	76	2019	89
2019	57	2020	69
2020	53	2021	59
2021	47	2022	54
2022	44	2023	48
2023 or later	147	2024 or later	131
Total	**424**	**Total**	**450**

Obligations from leases classified as operating leases relate mainly to leases for real estate and logistics infrastructure. The increase in future minimum operating lease payments is primarily attributable to new leases for depots in Germany, tank wagons in the United States, and other new leases.

In cases where pension obligations allocable to the Covestro Group are funded through pension institutions used jointly with other companies (especially Bayer), it is generally contractually ensured that Covestro participates in funding measures that serve to guarantee adequate funding status and/or adequate solvency capital of these pension institutions for the long term. To this end, Covestro AG agreed to grant Bayer-Pensionskasse VVaG an interest-bearing loan of up to €208 million for the effective initial fund as required.

26. Legal Risks

As a company with international operations, the Covestro Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control. The outcome of any current or future proceedings cannot be predicted. It is therefore possible that legal judgments or regulatory decisions or future settlements could give rise to expenses that are not covered, or not fully covered, by insurers' compensation payments and could significantly affect the earnings of the Covestro Group.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not necessarily represent an exhaustive list:

Carbon monoxide pipeline from Dormagen to Krefeld-Uerdingen

The carbon monoxide pipeline is intended to connect the chemical production sites at Dormagen and Krefeld-Uerdingen and complement the network already existing between Dormagen and Leverkusen. The aim is to ensure a safe and reliable supply of carbon monoxide to and across all sites. Although the pipeline was almost completed by the end of 2009, it cannot currently be put into operation because of ongoing court proceedings. Following confirmation by the Düsseldorf Administrative Court in 2011 that there were no grounds to challenge the material aspects of the planning permission decision, in particular the safety of the materials used and the legal conformity of the relevant pipeline act (Rohrleitungsgesetz), the plaintiffs and the regional government against which legal proceedings had been instituted lodged appeals before the Higher Administrative Court in Münster. In 2014, the Münster Higher Administrative Court raised no objections in principle to the safety and routing of the pipeline, but questioned the constitutionality of the pipeline act which forms the legal basis for the project. On December 21, 2016, the German Federal Constitutional Court dismissed the corresponding constitutionality question referred to it by the Münster Higher Administrative Court as inadmissible and confirmed the legal opinion of the Covestro Group. The Münster Higher Administrative Court must now return to considering the facts of the appeal.

Duties to inform for the use of diisocyanates (United States)

On September 14, 2016, Covestro LLC, Pittsburgh (United States), – amongst three other defendants – was served with a lawsuit filed by a law firm for a plaintiff in California Federal Court. This has since been transferred to a federal court in Washington D.C. (United States) by agreement of the parties involved. This action seeks financial damages due to fines allegedly enforceable and due by the defendants to the U.S. Environmental Protection Agency because they supposedly withheld information about the health risks associated with the manufacture and use of Toluene Diisocyanate (TDI), Diphenylmethane Diisocyanate (MDI), and Polymeric Diphenylmethane Diisocyanate (PMDI). The U.S. government declined to intervene and proceed with the claims itself despite sufficient opportunity to do so under the applicable laws. It is therefore now up to the law firm to proceed with the claims asserted on behalf of the government. Violations of the Toxic Substances Control Act (TSCA) and False Claims Act (FCA) are asserted. The trial court dismissed the action on October 23, 2017. The plaintiff then filed a timely appeal, which the court of first instance dismissed on June 22, 2018. The plaintiff thereupon appealed this decision. Covestro continues to consider the action to be without merit and will therefore defend the claims using all legal means.

Civil class action lawsuits (United States) over diisocyanates

On July 9, 2018, Covestro LLC, Pittsburgh (United States) – as one of numerous other defendants – was served the first of now 12 class action lawsuits initiated by various U.S. MDI and TDI customers. The plaintiffs allege that the defendants have violated various provisions of the Sherman Antitrust Act since January 1, 2015, by acting in coordination to limit production capacities of MDI and TDI and, at the same time, raising prices for these products in the market. On October 3, 2018, the U.S. Judicial Panel on Multidistrict Litigation ruled that all class action lawsuits in pretrial proceedings would be centralized in the District Court for the Western District of Pennsylvania. Covestro currently considers these claims to be without merit and will therefore use all legal means to defend itself against these allegations – also in light of the official conclusion in November 2018 of the six-month investigation by the U.S. Department of Justice into possible anticompetitive practices in relation to MDI.

Other Information

27. Notes to the Statement of Cash Flows

27.1. Cash Flows from Operating Activities

The net cash of €2,376 million (previous year: €2,361 million) provided by operating activities comprises the cash surplus from operating activities and reflects the changes in working capital and other noncash transactions.

The €15 million (0.6%) year-over-year increase in net cash provided by operating activities was chiefly the result of lower cash outflows from working capital than in the previous year. This compensated for a decline in EBIT by €228 million and higher income tax payments (€64 million).

27.2. Cash Flows from Investing Activities

Net cash outflow for investing activities in 2018 amounted to €346 million (previous year: €747 million).

These mainly included cash outflows for additions to property, plant, equipment and intangible assets of €707 million (previous year: €518 million). The cash inflows (previous year: outflows) from other current financial assets had the opposite effect. These mainly comprised cash inflows (previous year: outflows) from short-term bank deposits of €265 million that were invested in the previous year.

The sale of the U.S. polycarbonate sheet business to Plaskolite LLC, Columbus (United States), generated proceeds from divestitures of €62 million. In 2017, proceeds from divestitures were generated from the sale of the U.S. polyurethane spray foam systems business to Accella Polyurethane Systems LLC, Maryland Heights (United States).

27.3. Cash Flows from Financing Activities

In 2018, there was a net cash outflow of €2,402 million (previous year: €634 million) for financing activities. Net loan repayments amounted to €582 million (previous year: €86 million).

In the course of the share buy-back program, Covestro AG paid €1,313 million to acquire own shares in 2018. The €8 million in treasury shares issued relates to shares issued to employees as part of the Covestment stock participation program.

In April 2018, dividends totaling €436 million were paid to Covestro AG stockholders.

Reconciliation of financial debt in 2018

	Carrying amounts, Dec. 31, 2017	Changes cashflow realized	Changes cashflow not realized			Carrying amounts, Dec. 31, 2018
			Changes due to exchange rate movements	Changes in measurement	Other changes	
	€ million	€ million	€ million	€ million	€ million	€ million
Bonds	1,495	(500)	–	1	–	996
Liabilities to banks	69	(47)	2	–	–	24
Liabilities under finance lease	223	(35)	–	–	5	193
Financial debt[1]	**1,787**	**(582)**	**2**	**1**	**5**	**1,213**

[1] Not including forward exchange contracts used to hedge currency risks

The interest paid totaling €74 million (previous year: €131 million) reflected in cash flows from financing activities relates mainly to forward exchange contracts used to hedge foreign currency risks of €43 million (previous year: €79 million), bonds of €14 million (previous year: €23 million), leasing liabilities of €14 million (previous year: €16 million), and liabilities to banks of €1 million (previous year: €6 million).

28. Related Companies and Persons

28.1 Related Companies

Related entities as defined in IAS 24 (Related Party Disclosures) are those legal entities that are able to exert at least significant influence on Covestro AG and its subsidiaries or over which Covestro AG or its subsidiaries exercise control or have at least a significant influence. They include nonconsolidated subsidiaries, joint ventures, associated companies and post-employment benefit plans.

Receivables from and Liabilities to Related Parties

	Dec. 31, 2017		Dec. 31, 2018	
	Receivables	Liabilities	Receivables	Liabilities
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	4	8	4	9
Joint ventures	1	–	1	–
Associates	10	–	11	1

Sales and Purchases of Goods and Services to/from Related Parties

	2017		2018	
	Sales of goods and services	Purchases of goods and services	Sales of goods and services	Purchases of goods and services
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	39	45	44	48
Joint ventures	4	–	4	–
Associates	21	618	24	688

The **goods and services provided** by associated companies mainly result from the ongoing operating business with PO JV, LP, Wilmington (United States). Covestro benefits from fixed long-term supply quotas/volumes of propylene oxide (PO) from this company's production. Further details on these business relationships are given in note 15.

Receivables from and payables to related parties mainly comprise leasing and financing matters, trade in goods and services and other transactions. In fiscal 2018, no impairment losses were recorded on receivables from related parties (previous year: €1 million).

Transactions with Bayer AG and its subsidiaries up to May 31, 2018

Until May 31, 2018, Bayer AG and its subsidiaries were classified as related companies. Effective May 31, 2018, when Johannes Dietsch, who is a member of Covestro's Supervisory Board, left the Board of Management of Bayer AG, Bayer AG no longer has significant influence on Covestro AG.

Sales and Purchases of Goods and Services to/from Bayer AG and Bayer entities

	2017		2018[1]	
	Sales of goods and services	Purchases of goods and services	Sales of goods and services	Purchases of goods and services
	€ million	€ million	€ million	€ million
Bayer AG	29	11	13	4
Bayer Group companies	55	535	23	213

[1] Since Bayer AG and its subsidiaries were only classified as related companies until May 31, 2018, only transactions involving purchases and sales of goods and services in the period from January 1, 2018, to May 31, 2018, are included in the figures for 2018

Sales with Bayer Group companies resulted from the sale of products, goods purchased for resale and other typical business activities.

The **goods and services received** from Bayer Group companies mainly comprised operational goods and service transactions, leasing and services performed for Covestro by the Bayer Group through its service company Currenta GmbH & Co. OHG, Leverkusen (Germany), (Currenta) and its subsidiaries.

The services provided by the service companies are primarily services connected with the Chempark sites operated by Currenta, which are used jointly by Covestro and the Bayer Group. The services obtained from Currenta mainly comprised energy supplies, maintenance services, environmental services, and logistics and infrastructure. The latter included in particular basic site infrastructure at the Chempark sites (e.g. electricity networks, pipeline systems, site railway networks, harbor installations, wastewater treatment plants, and security services).

Covestro also used some insurance services provided by the wholly owned Bayer subsidiary Pallas Versicherung AG, Leverkusen (Germany).

The services provided and received also include leasing agreements concluded with the Bayer Group in which Covestro figured as both the lessor and the lessee.

28.2 Related Persons

Related persons as defined in IAS 24 are those natural persons who, on account of their function in the Covestro Group, are responsible for Covestro's global business operations. These persons include the corporate officers of Covestro AG who are the members of the Board of Management and Supervisory Board.

Compensation of the corporate officers

Total compensation of €15,790 thousand (previous year: €16,962 thousand) was paid to the corporate officers in fiscal 2018, including the compensation of the Supervisory Board amounting to €1,742 thousand (previous year: €1,756 thousand).

This compensation is shown below:

Board Members Compensation According to IFRSs

	2017	2018
	€ thousand	€ thousand
Total short-term compensation	11,238	12,531
Termination benefits	393	674
Total stock-based compensation (long-term incentive)	4,041	1,151
Service cost for pension entitlements earned in the respective year	1,290	1,434
Aggregate compensation (IFRSs)	**16,962**	**15,790**

Aggregate compensation (German Commercial Code) amounted to €14,337 thousand and is presented in section 25 of the combined management report. The fair value of the long-term stock-based compensation (Prisma) granted to the Board of Management in fiscal year 2018 was €3,560 thousand (previous year: €3,193 thousand).

Provisions of €12,011 thousand (previous year: €14,088 thousand) were recognized for the short-term variable cash compensation and long-term stock-based cash compensation for the members of the Board of Management serving during the 2018 reporting period. Members of the Board of Management who left the company during the fiscal year accounted for €4,523 thousand of this amount. At the end of the year, the present value of the defined benefit pension obligations for the current members of the Board of Management was €6,825 thousand (previous year: €10,322 thousand). The present value of the defined benefit pension obligations for members of the Board of Management who stepped down during the reporting period was €6,188 thousand (previous year: €647 thousand). Provisions of €1,513 thousand were recognized for long-term stock-based cash compensation for former members of the Board of Management. The present value of the defined benefit pension obligations for former members of the Board of Management was €668 thousand.

Since 2016, the members of the Board of Management have been entitled to participate in the Prisma long-term stock-based compensation program, as long as they are employed by the Covestro Group, and acquire for their own account and hold an individually defined number of Covestro shares as specified by the guidelines.

The compensation of the Supervisory Board is exclusively non-performance-related. In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €925 thousand (previous year: €915 thousand). Pension obligations for employee representatives on the Supervisory Board amounted to €2,672 thousand (previous year: €2,683 thousand).

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2018, or at any time during 2018 or the previous year.

29. Auditor's Fees

Since fiscal 2018 KPMG AG Wirtschaftsprüfungsgesellschaft, Düsseldorf, (KPMG AG WPG) has been the elected statutory auditor of Covestro AG and the Covestro Group. Up until and including fiscal 2017, Pricewaterhouse-Coopers GmbH Wirtschaftsprüfungsgesellschaft, Essen, (PwC GmbH WPG) was the elected statutory auditor of Covestro AG and Covestro Group.

The following fees were recognized as expenses for the services provided by KPMG AG WPG for 2018 as well as for PwC GmbH WPG for 2017:

Auditor's Fees

	PwC GmbH WPG	KPMG AG WPG
	2017	2018
	€ million	€ million
Audit services	2.8	2.0
Other attestation services	0.3	0.2
Tax services	0.1	0.1
Other services	–	0.1
Total	**3.2**	**2.4**

The fees for audit services for 2018 mainly comprise those for the statutory audit of the consolidated financial statements of the Covestro Group, the review of the Covestro Group's interim report for the period ended June 30, 2018, and the audit of the financial statements of Covestro AG and its subsidiaries in Germany. The fees for audit services in the previous year additionally included fees for process-related audits of €0.6 million.

The fees for other attestation services in 2018 particularly contain the assurance of sustainability information and special audits concerning energy related topics. Tax services mainly include consultancy services for the preparation of business tax reports. Other services for 2018 essentially comprise fees for trainings.

30. Events after the End of the Reporting Period

No events have occurred since January 1, 2019, that will have a material impact on the net assets, financial position and results of operations of the Covestro Group.

Leverkusen, February 19, 2019
Covestro AG
The Board of Management

RESPONSIBILITY STATEMENT

To the best of our knowledge, and in accordance with the applicable reporting principles for financial reporting, the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Covestro Group, and the group management report, which has been combined with the management report of Covestro AG, includes a fair review of the development and performance of the business and the position of the Covestro Group and Covestro AG, together with a description of the principal opportunities and risks associated with the expected development of the Covestro Group and Covestro AG.

Leverkusen, February 19, 2019
Covestro AG
The Board of Management

Dr. Markus Steilemann (Chairman)

Dr. Klaus Schäfer

Dr. Thomas Toepfer

INDEPENDENT AUDITOR'S REPORT

To Covestro AG, Leverkusen

Report on the Audit of the Consolidated Financial Statements and of the Combined Management Report

Opinions

We have audited the consolidated financial statements of Covestro AG, Leverkusen, and its subsidiaries (the Group) - which comprise the consolidated income statement and consolidated statement of comprehensive income for the financial year from 1 January 2018 to 31 December 2018, the consolidated balance sheet as at 31 December 2018, and the consolidated statement of cash flows and the consolidated statement of changes in equity for the financial year from 1 January 2018 to 31 December 2018 as well as the Notes to the Consolidated Financial Statements, including a summary of significant accounting policies. In addition, we have audited the combined management report of Covestro AG for the financial year from 1 January 2018 to 31 December 2018 including the non-financial statement in accordance with Section 315b (1), 315c HGB [Handelsgesetzbuch: German Commercial Code]. In accordance with the German legal requirements, we have not audited the content of the governance statement included in section 22 of the combined management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2018, and of its financial performance for the financial year from 1 January 2018 to 31 December 2018, and

- the accompanying combined management report as a whole provides an appropriate view of the Group's position. In all material respects, this combined management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the combined management report does not cover the governance statement mentioned above.

Pursuant to Section 322 (3) sentence 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the combined management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the combined management report in accordance with Section 317 HGB and the EU Audit Regulation No. 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the combined management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January 2018 to 31 December 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Recoverability of the carrying amount of goodwill and of assets with determinable useful lives
The accounting policies as well as the assumptions made are disclosed in the Notes to the Consolidated Financial Statements in note 3. Disclosure of the amount of goodwill is provided in the Notes to the Consolidated Financial Statements in note 13 with explanations with respect to the business development of the operating segments included in the combined management report in section 13.

THE FINANCIAL STATEMENT RISK
In the consolidated financial statements of Covestro AG at 31 December 2018, Goodwill, Other intangible assets, and Property, plant and equipment amount to EUR 4.7 billion in total. These items account for a significant portion of the Group's noncurrent assets and for 43% of the Group's total assets. Of these items, Goodwill amounts to EUR 256 million for the financial year 31 December 2018.

A central impairment test is carried out, when there is an indication of impairment for an asset. Goodwill is tested annually for impairment. To this end, the carrying amount of the individual Cash Generating Units (CGU) is compared with their recoverable amount. If the carrying amount exceeds the recoverable amount of the respective CGU, an impairment is recorded. Initially the impairment reduces the carrying amount of goodwill and then the carrying amount of the other assets of the CGU.

The goodwill impairment test for CGU is complex and is based on a number of judgemental assumptions. These include, among others, the expected business and earnings development of the operating segments for the upcoming years, the assumed long-term growth rates and the discount rate used.

Due to an increase in competition, future business prospects in the Chemicals sector showed first signs of deterioration. Nonetheless, as a result of the impairment test carried out by the company, no need for the recording of an impairment was identified. However, the Company's sensitivity analysis indicated that a reasonably possible change in the expected cash flows, the discount rate or in the long-term growth rate of the CGU "Polyether polyols" would lead to an impairment to its recoverable amount.

There is the risk for the financial statements that required impairments were not identified. In addition, there is the risk that the disclosures in the notes associated herewith are not appropriate.

OUR AUDIT APPROACH
With the support of our valuation specialists, we have assessed the appropriateness of the significant assumptions as well as company's valuation model. This included a discussion of the expected development of the business and results as well as of the assumed underlying long-term growth rates with those responsible for the planning process. In addition, reconciliations were made with other internally available forecasts as well as with the financial planning prepared by the Executive Board and approved by the Supervisory Board. Furthermore, we also assessed the consistency of the assumptions with external market expectations, by utilizing economic reports from recognized industry institutes as well as analyst assessments.

Moreover, we assessed the Company's planning accuracy by comparing projections for previous financial years with the actual results realised and analysed deviations. We have compared the assumptions and parameters underlying the discount rate – in particular the risk-free rate, the market risk premium and the beta factor – with own assumptions and publicly available information.

To provide for the mathematical accuracy of the valuation model utilised, we recalculated the Company's calculations.

To reflect the existing uncertainty with respect to forecasts as well as the earlier valuation date for the impairment test, we have assessed reasonably possible changes of the discount rate, the expected earnings respectively the long-term growth rate on the recoverable amount (sensitivity analysis) by calculating alternative scenarios and comparing these with the Company's valuation results.

Finally, we assessed whether the disclosures in the notes with respect to the recoverability of the carrying amount of the goodwill are appropriate. This also included an assessment as to the appropriateness of the disclosures in the notes pursuant to IAS 36.134(f) with respect to sensitivities resulting from reasonably possible changes of key assumptions underlying the valuation.

OUR OBSERVATIONS

The underlying valuation model used in the impairment test of goodwill is appropriate and consistent with the applicable accounting principles. The Group's assumptions and parameters underlying the valuation are within an acceptable bandwidth and are, on the whole, acceptable. The disclosures in the notes associated herewith are appropriate.

Other Information

Management is responsible for the other information. The other information comprises:

- the governance statement, and
- the remaining parts of the Annual Report, with the exception of the audited consolidated financial statements and combined management report and our auditor's report.

Our opinions on the consolidated financial statements and on the combined management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the combined management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Combined Management Report

Management is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the combined management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a combined management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the combined management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the combined management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the combined management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the combined management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this combined management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the combined management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the combined management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems of the Group.

- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.

- Conclude on the appropriateness of the management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the combined management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the combined management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

- Evaluate the consistency of the combined management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by management in the combined management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on 13 April 2018. We were engaged by Audit Committee of the Supervisory Board on 19 July 2018. We have been the group auditor of Covestro AG since fiscal year 2018.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Dr. Markus Zeimes.

Düsseldorf, 20 February 2019

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Dr. Zeimes	Geier
[German Public Auditor]	[German Public Auditor]