ANNUAL REPORT 2018

»TOGETHER«

covestro

Key Data Covestro Group

	2017	2018	Change
	in Mio. €	in Mio. €	in %
Core volume growth[1, 2]	**+3.4%**	**+1.6%**	
Sales	**14,138**	**14,616**	**+3.4**
Change in sales			
Volume	+4.3%	+2.3%	
Price	+16.1%	+4.5%	
Currency	–1.6%	–3.0%	
Portfolio	0.0%	–0.4%	
Sales by region			
EMLA[3]	5,997	6,284	+4.8
NAFTA[4]	3,398	3,469	+2.1
APAC[5]	4,743	4,863	+2.5
EBITDA[6, 7]	**3,435**	**3,200**	**–6.8**
Changes in EBITDA			
of which volume	+11.5%	+6.3%	
of which price	+95.4%	+18.7%	
of which raw material costs	–33.6%	–16.8%	
of which currency	–3.0%	–2.9%	
EBIT[8, 9]	**2,808**	**2,580**	**–8.1**
Financial result	**(150)**	**(104)**	**–30.7**
Net income[10]	**2,009**	**1,823**	**–9.3**
Operating cash flows[11]	**2,361**	**2,376**	**+0.6**
Cash outflows for additions to property, plant, equipment and intangible assets	**518**	**707**	**+36.5**
Free operating cash flow[12]	**1,843**	**1,669**	**–9.4**
Net financial debt[13, 14]	**283**	**348**	**+23.0**
ROCE[15]	**+33.4%**	**+29.5%**	
Employees (in FTE)[14, 16]	**16,176**	**16,770**	**+3.7**

1 Core volume growth 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 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.
2 Reference values calculated based on the definition of the core business effective March 31, 2018
3 EMLA: Europe, Middle East, Africa and Latin America (excl. Mexico) region
4 NAFTA: United States, Canada and Mexico region
5 APAC: Asia and Pacific region
6 EBITDA: EBIT plus depreciation and amortization
7 Adjusted EBITDA is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
8 EBIT: income after income taxes plus financial result and income taxes
9 Adjusted EBIT is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
10 Net income: income after income taxes attributable to the stockholders of Covestro AG
11 Operating cash flows: cash flows from operating activities according to IAS 7
12 Free operating cash flow: operating cash flows less cash outflows for additions to property, plant, equipment and intangible assets
13 Excluding obligations for pensions and other post-employment benefits
14 As of December 31, 2018 compared with December 31, 2017
15 ROCE: The return on capital employed is calculated as the ratio of adjusted operating result after taxes to capital employed. The capital employed is the capital used by the company. It is the sum of noncurrent and current assets less noninterest-bearing liabilities such as trade accounts payable.
16 Employees calculated as full-time equivalents (FTE)

»TOGETHER«

A sustainable world.
A pleasant, simple life for as many people as possible.

This does not need to be a utopia, but we can only reach this goal together. Working together, supporting others and inspiring others – this is the Covestro path.

The path to our vision:

To make the world a brighter place.

PREFACE

At Covestro, 2018 was a year of product launches, research breakthroughs and economic successes; of numerous challenges, special highlights and routine tasks; of individual commitment and collective effort. Below, the Board of Management discusses the last year, its expectations for 2019 and what makes the company so special.

Markus Steilemann: Dear Readers, Covestro can look back on another successful year – not least because we're on hand to help with our products and solutions wherever there are urgent challenges to be faced in the world. Nowhere is this more evident than in the case of climate change: Record CO_2 emissions in 2018 once again emphatically underscored the urgent need for action. But there are many other areas in which action is also required. Future-oriented approaches such as electric drives and autonomous systems are needed to cope with increasing traffic flows. And, in another significant development, more and more people are living longer and require adequate medical care.

All these topics have to be tackled with the use of innovative, sustainable materials. We see abundant scope for action here in the long term, and will make every effort to exploit the associated business opportunities.

Klaus Schäfer: And we'll do that in collaboration with partners, wherever possible. Together we have the best chance of achieving our vision of making the world a brighter place. That's why we're involved in numerous projects around the globe with companies from other branches of industry as well as our own – in the field of science, in the context of social ventures and within our own Company. Covestro's efforts range from involvement in global projects such as the United Nations Environment Program to small-scale interventions. In 2018, for instance, we supported teams of students from India and China in a sustain-

Three characters, one team – the Board of Management of Covestro AG (from left): Dr. Thomas Toepfer (Finance), Dr. Markus Steilemann (Chairman), Dr. Klaus Schäfer (Production and Technology).

able building and living competition. Only if we all pull together can we bring about global change in the long term.

Thomas Toepfer: I'm delighted to be able to play my part as a new member of the Board of Management. And naturally I'm very pleased about the economic success we had last year, even if we had to adjust our guidance toward the end owing to fiercer competition and special items. All in all, we were able to increase our core volumes by 1.6 percent compared with 2017. As a result of the factors mentioned above, however, EBITDA remained slightly below last year's record levels, as did our return on capital employed (ROCE) and free operating cash flow (FOCF).

On the whole, 2018 came to a financially successful conclusion, which is also beneficial to our shareholders: Although

»WE OFFER SOLUTIONS FOR MAJOR CHALLENGES.«

Dr. Markus Steilemann, Chief Executive Officer (CEO)

none of us was satisfied with the performance of the share price, shareholders can expect a dividend of 2.40 euro per share for 2018 – 20 cents more than last year.

Klaus Schäfer: But we don't just pay out money – we invest it, too. Above all, Covestro is expanding its production base considerably. We want to be optimally positioned in order to support the significant growth we expect in our markets. This is where global trends come into play, not least the issue →

of feeding the expanding global population. One major problem is that many foodstuffs spoil before they reach consumers. Functioning refrigeration chains with outstanding insulation are crucial, and rigid polyurethane foam is making this possible: Forecasts suggest market growth much faster than the global economy at about five percent per annum. That's why we're investing in the expansion of our production plants for the rigid foam precursor MDI, including pumping 1.5 billion euro into our plant in Baytown, Texas alone. It's the biggest individual investment in Covestro's history.

Markus Steilemann: Increasing our level of investment is a cornerstone of our new strategy to create more growth, which we are implementing systematically. Another objective in this context is to gear Covestro's innovative capability even more toward sustainability. We plan to reduce our dependency on crude oil, for instance, using plants or even carbon dioxide in their place. And materials manufactured according to these principles helped us tap into another application area – the sports sector – in 2018: "Fit with CO_2!" is our new motto.

»WE'RE READY FOR THE DIGITAL AGE.«

Dr. Klaus Schäfer, Chief Technology Officer (CTO)

Klaus Schäfer: Another vital element of our strategy is the systematic digitalization of our company in the fields of research, customer relationships and – in particular – production. Last year we launched a comprehensive program aimed at taking our global business operations into the digital age. We want to set new standards with a view to making facilities planning, operations and maintenance even safer and more efficient.

Thomas Toepfer: On the subject of efficiency, we aim to tailor all of Covestro's structures precisely to our requirements. Not just through the increasing use of digital solutions, but by stepping up cross-division partnerships, too. We expect this to result in annual cost savings of around 350 million euro by 2021 at the latest.

Markus Steilemann: But we're not just pursuing our own priorities, we're also addressing important social challenges. The problem of plastic waste in the environment is increasingly becoming the focus of attention, and rightly so, because it needs to be tackled swiftly and rigorously, both globally and at every level. Our industry has a crucial contribution to make in this respect, not least via a new global alliance of companies of which Covestro is a founding member. Plastics such as polycarbonates and polyurethanes are simply too valuable to throw away. What's more, the issue of waste must be incorporated into a comprehensive approach to circular economic activity. We will undoubtedly continue to face these major challenges for some time to come.

2019, which will be marked by heightened competition and global uncertainty in some areas, will be economically challenging as well. For the 2019 fiscal year we expect core volume growth in the low-to-mid-single-digit-percentage range. We anticipate the free operating cash flow between 300 million euro and 700 million euro. We expect ROCE between eight and 13 percent.

On the whole, however, we expect that our good growth prospects will continue. Covestro is fundamentally in a strong position. One of our really big pluses is our workforce of around 17,000 highly competent and committed employees, to whom we would like to extend our particular thanks for their great efforts last year. You're a strong team. And together with our many partners, we'll continue to push boundaries to make the world a brighter place. ■

»WE'RE MAKING COVESTRO EVEN MORE EFFICIENT.«

Dr. Thomas Toepfer, Chief Financial Officer (CFO)

Many foodstuffs spoil on the way to the consumer. This is why well-functioning refrigeration chains are important – with outstanding insulation made, for instance, from rigid polyurethane foam. Covestro is investing heavily in the production of the rigid foam component MDI.

Sincerely,

Dr. Markus Steilemann

Dr. Klaus Schäfer

Dr. Thomas Toepfer

CONTE

MAGAZINE

ECONOMY & SCIENCE 10

NTS

SOCIETY & EMPLOYEES 24

FINANCIAL REPORT

FINANCIAL REPORT

Forward-Looking Statements

This Annual Report may contain forward-looking statements based on current assumptions and forecasts made by the management of Covestro AG. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the Group and the estimates given here. These factors include those discussed in Covestro's public reports, which are available on the Covestro website at **www.covestro.com.** The Group assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

Nonfinancial statement

The Covestro Group's nonfinancial statement in accordance with Sections 315b and 315c in conjunction with Sections 289c through 289e of the German Commercial Code (HGB) is integrated into the Group management report. In the relevant sections, we outline the strategies we pursue in addressing environmental, labor, and social issues as well as protecting human rights and fighting corruption and bribery, including the due diligence processes followed and measures implemented as well as the results produced by these strategies. Nonfinancial performance indicators are reported only when these are important to the Covestro Group.

In addition to this Annual Report, we provide supplementary sustainability information in a separate publication (GRI Supplement), which is not part of the Management Report, at **www.covestro.com.**

The Management Report and GRI Supplement comprise our company's sustainability reporting, which is aligned with international standards and recommendations. Our sustainability reporting complies with GRI core reporting in line with the Global Reporting Initiative's (GRI) Sustainability Reporting Standards (SRS).

Rounding

As the indicators in this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.

Percentage Deviations

Percentage deviations are only calculated and reported if they are no more than 100%. Larger deviations are reported as >100%, >200%, etc. If a deviation changes from positive to negative or vice versa, or if it is greater than 1,000%, this is shown by a period.

Effects of New Financial Reporting Standards

The reference information for fiscal 2017 has not been restated to reflect the new financial reporting standards. For more information please see Note 2 "Effects of New Financial Reporting Standards" of the Consolidated Financial Statements.

Equal Treatment

We consider equal treatment to be important. To ensure legibility, this Annual Report avoids gender-specific wordings. All terms should be taken to apply equally to all genders.

Key

References within the Management Report

References to the Notes to the Consolidated Financial Statements

References to the GRI Supplement

This Annual Report was published in German and English on February 25, 2019. Only the German version is binding.

TO OUR STOCKHOLDERS

REPORT OF THE SUPERVISORY BOARD

Dear Stockholders,

During the reporting period, the Supervisory Board of Covestro AG performed its duties with due care in accordance with the law, the Articles of Incorporation, and the rules of procedure. During fiscal 2018, it monitored the conduct of the company's business by the Board of Management with regular frequency based on detailed written and oral reports received from the Board of Management, and also acted in an advisory capacity. The discussions between the Supervisory Board and Board of Management were always constructive and were conducted in the spirit of openness and trust.

The Supervisory Board Chair was in regular contact with the Board of Management outside of Supervisory Board meetings and remained informed about current developments in the company's business performance and material transactions. In addition, the Chair of the Supervisory Board was in close contact with the Board of Management Chair to discuss important questions and decisions one on one. The full Supervisory Board was informed in detail about the content of these discussions no later than during the next meeting.

In this way, the Supervisory Board was kept regularly and fully informed in the respective meetings about the company's intended business strategy, corporate planning (including financial, investment, and human resources planning), earnings performance, the state of the business, and the situation of the Company and the Group (including the risk situation, risk management, and the compliance situation). Where Board of Management decisions or actions required the approval of the Supervisory Board during the reporting period, whether by law, or under the Articles of Incorporation or the rules of procedure, the draft resolutions were inspected and thoroughly discussed by the members of the Supervisory Board at its meetings, sometimes after preparatory work by the responsible committees, or approved in writing on the basis of documents circulated to the members. The Supervisory Board was always directly involved in decisions of material importance to the company. It discussed at length the business trends described in the reports from the Board of Management and the prospects for the development of the Covestro Group as a whole, the individual segments, and the regions. The Supervisory Board assured itself that the actions of the Board of Management were lawful, due and proper, and appropriate.

Dr. Richard Pott
Chairman of the
Supervisory Board

Meetings of the full Supervisory Board and member attendance

In fiscal year 2018, the Supervisory Board held a total of five regular meetings, all of which were also attended by at least one member of the Board of Management, except where issues were discussed that required them to be absent.

The average attendance rate at the meetings of the full Supervisory Board and of its committees was over 97% in 2018. No member of the Supervisory Board attended fewer than half of the meetings of the full Supervisory Board and of the committees to which he or she belonged.

Specifically, the members of the Supervisory Board attended the meetings of the Supervisory Board and its committees, including by phone in two cases, as follows:

Member of the Supervisory Board	Meeting attendance (including committee meetings)	Attendance rate (%)
Dr. Richard Pott (Chair)	14/14	100
Ferdinando Falco Beccalli	4/6	66.7
Dr. Christine Bortenlänger	5/5	100
Johannes Dietsch	13/13	100
Peter Hausmann	9/9	100
Petra Kronen (Vice Chair)	13/13	100
Irena Küstner	9/9	100
Dr. Ulrich Liman	9/9	100
Prof. Dr. Rolf Nonnenmacher	9/9	100
Regine Stachelhaus	6/6	100
Marc Stothfang	5/5	100
Frank Werth	5/5	100
Average attendance rate		**97.2**

→

Only in the case of one regular Supervisory Board meeting and a meeting of the Nominations Committee scheduled on the same day did a member of the Supervisory Board and the Nominations Committee have to cancel on short notice for personal reasons.

Based on its composition and experience, the Supervisory Board as a whole has in-depth industry expertise in the polymer sector in which Covestro operates.

In the 2018 reporting period, personal continuing education was again an important activity for Supervisory Board members. The main highlight was once again an all-day workshop on the key elements of the Group strategy, as well as a guest presentation and extensive dialog on the future of the chemical industry in a circular economy.

Principal topics discussed by the Supervisory Board

The deliberations of the Supervisory Board focused on the Board of Management's regular reports on business activities, which contained detailed information on the development of the sales and earnings for the Group and its segments, as well as on the company's strategy, opportunities and risks, as well as personnel matters. The Supervisory Board also concentrated on the following topics in its individual meetings:

In its meeting on February 19, 2018, the Supervisory Board deliberated at length about the existing voluntary commitment by its members to acquire Covestro shares for 25% of their annual fixed compensation, including any compensation for committee membership. After an in-depth discussion about the advantages and disadvantages of continuing to uphold this voluntary commitment, particularly considering the insider trading risks associated with stock purchases, and the great variation in experience with and handling of this issue at other listed companies, the members of the Supervisory Board decided to eliminate the voluntary commitment to purchase further Covestro shares. The obligation to hold the Covestro shares purchased thus far as part of the voluntary commitment for the duration of their term on the Supervisory Board of Covestro AG remains unaffected. Additional topics at this initial meeting were target attainment by Board of Management members and the adjustment in the calculation of maximum compensation for the Board of Management according to the provisions of the German Corporate Governance Code. Moreover, the Supervisory Board extensively discussed the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group for fiscal 2017, the combined management report, the proposal for the use of the distributable profit, as well as the agenda and proposed resolutions for the 2018 Annual General Meeting. The Supervisory Board also thoroughly reviewed the audit report and the auditor's oral report concerning the material results of the audit. In addition, the Supervisory Board examined the risk report, which sets out the material risks for the Group and current developments in this regard, as well as the relevant countermeasures. Furthermore, the organization, statistics, training efforts, processes, and effectiveness of the Group's compliance management system were reviewed in depth. After a discussion of the matter, the Supervisory Board ultimately decided to wait for implementation of the results from the efficiency working groups, before it conducts another efficiency review of its activities.

In its meeting on April 13, 2018, the Supervisory Board passed a resolution after a thorough discussion on the early departure of Patrick Thomas as CEO as of May 31, 2018, and the corresponding slightly earlier appointment of Dr. Markus Steilemann as the Covestro Group's new CEO as of June 1, 2018. Additionally, the Supervisory Board focused mainly on issues relevant to the upcoming Annual General Meeting of Covestro AG.

The Supervisory Board meeting on May 23, 2018, focused particularly on certain aspects of the implementation of the Group's strategy. Aside from continuing deliberations regarding a possible MDI investment program, project plans and measures aimed at closer, industry-typical cooperation with external contractors on future large-scale investment projects were discussed as well. Moreover, the Supervisory Board reviewed the M&A strategy; individual digitalization efforts; employee development; and the "Covestro Campus", the new company's new office administration building, the construction of which commenced in the fiscal year 2018. The Supervisory Board was also informed about the status of the Group's compliance with the requirements of the EU's General Data Protection Regulation and started deliberating on the possible establishment of a Covestro foundation to promote sustainable development.

In its meeting on October 9, 2018, the Supervisory Board focused on issues such as the organization of the current Board of Management and the individual Board of Management areas of responsibility in view of the Group's strategic goals. In view of the extensive discussions and dialog that occurred during a strategy workshop that was conducted on the previous day, the Supervisory Board again addressed the implementation thus far and future considerations with respect to the six key elements of the Group's strategy: investment, innovation, M&A, performance, digitalization, and corporate culture. After extensive debate and analysis, the Supervisory Board ultimately also approved a large-scale investment in projects including construction of a new world-scale MDI production facility at the Covestro site in Baytown, United States. In conclusion, the Supervisory Board raised the standard age limit for its members to 72.

At its last meeting on December 7, 2018, the Supervisory Board comprehensively reviewed the appropriateness of its own compensation and that of the members of the Board of Management, including long-term compensation components for the period from 2019 to 2022. Furthermore, the board discussed adjustments to growth, profitability, and liquidity thresholds for the short-term compensation program ("Covestro Profit Sharing Plan") for 2019 to 2021 and appointed Dr. Thomas Toepfer as the Group's new Labor Director effective January 1, 2019. Additionally, the Supervisory Board discussed a suitable approach to an efficiency review of its activities in the 2018 fiscal year. Against the backdrop of Covestro AG's share buy-back program completed in early December 2018 and the capital reduction resolved by the Board of Management, the Supervisory Board passed the necessary resolution to adjust the Articles of Incorporation to reflect the reduced capital stock. The Supervisory Board also delved deeper into its initial deliberations on further optimizing individual Board of Management portfolios and again extensively debated the MDI investment program. Implementation costs for the "Perspective" program, which is aimed at →

boosting efficiency and effectiveness, were approved and a detailed discussion was held about the financial planning and also the medium-term outlook proposed by the Board of Management. Moreover, the Supervisory Board approved the proposed financial framework for fiscal 2019. It also voted to issue an unqualified declaration of conformity with the German Corporate Governance Code as amended on February 7, 2017.

Committees of the Supervisory Board

In the past fiscal year, the Supervisory Board once again had four committees set up for the purpose of exercising its duties efficiently. The committees prepared resolutions by the full Supervisory Board and provided information on other topics to be discussed by this body. Moreover, certain decision-making powers of the Supervisory Board were assigned to the committees to the extent legally permissible. The Supervisory Board currently has a Presidial Committee, an Audit Committee, a Human Resources Committee, and a Nominations Committee. The tasks and responsibilities of the committees are described in greater detail in section 22 "Declaration on Corporate Governance" under "Committees of the Supervisory Board." The current composition is presented in the section "Governance Bodies."

The meetings and decisions of the committees, and especially the meetings of the Audit Committee, were prepared on the basis of reports and other information provided by the Board of Management. The committee chairs regularly provided comprehensive reports on the work of the committees to the full Supervisory Board.

In 2018, the **Presidial Committee** was not required to convene in its capacity as the mediation committee.

The **Audit Committee** met four times in the reporting year on February 16, April 25, July 25, and October 24, 2018, with the (interim) CFO present at all four meetings and the responsible auditor in each case attending two of them. The committee conducted a preparatory review for the Supervisory Board of the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report, the proposal for the use of the distributable profit, and the related parties report. Additionally, it also thoroughly discussed, in particular, the respective audit report and the oral report by the auditor on the material results of the audit. The combined management report also included the Group's nonfinancial statement. In conducting its review, the Audit Committee found no grounds for objections. In addition, the Audit Committee discussed with the Board of Management the half-year financial report in light of the results of the review by the auditor, and the Q1 and Q3 2018 interim statements prior to their publication.

A particular focus of the Audit Committee was on the status reports regarding the "BrigHteR" project (transition of HR processes during the rollout of a new cloud-based HR software system) and the "TOMA" project (transfer of various accounting activities to a Shared Service Center in Bratislava, Slovakia). It also intensively discussed a comparative study on corporate social responsibility (CSR) reporting and the associated controls in DAX companies.

Finally, the Audit Committee reviewed in detail the reasons for changes in general administration expenses since the carve-out, the status at the company regarding the implementation of the new International Financial Reporting Standard – IFRS 16 "Leases" – and the experiences, action items, and future plans for cybersecurity.

The Audit Committee monitored the accounting and financial reporting process and the effectiveness of the internal control system and the risk management system based on information such as reporting by the head of the internal audit department and the auditor of the financial statements. No material weaknesses were identified by the auditor in the internal control system for financial reporting purposes or the risk early warning system.

The Audit Committee additionally undertook preparations for the Supervisory Board's proposal for the appointment of the financial statement auditor by the Annual General Meeting, the engagement of the auditor and agreement on the auditor's fee. It monitored the effectiveness of the audit and the independence of the auditor as well as the supplementary non-audit services provided by the auditor in addition to the financial statement audit.

The Audit Committee continually exchanged information with the auditor about the material audit risks and the necessary focus of the audit.

Furthermore, the Audit Committee obtained information on an ongoing basis on enhancements to the compliance management system, (particularly regarding anti-corruption measures), the handling of suspected compliance violations, progress in significant litigation, new legal and regulatory risks, and the risk situation, risk tracking, and risk monitoring in the Group. The internal audit department provided regular reports about risk assessments.

The heads of the relevant departments also participated in meetings of the Audit Committee on selected agenda items, reported on these and answered questions. In addition, the Chair of the Audit Committee discussed important matters between meetings, particularly with the Supervisory Board Chair, the (interim) CFO and the auditor. The key results of these discussions were reported regularly to the Audit Committee and the Supervisory Board. →

The **Human Resources Committee** held a total of four meetings in the reporting year, on February 16/19, April 13, October 9, and December 3, 2018. Topics covered at the first meeting particularly included the achievement of targets set for Board of Management members, the general change in Share Ownership Guidelines for executives from a fixed number of shares to be acquired to a corresponding investment value, the adjustment in the calculation of maximum Board of Management compensation according to the provisions of the German Corporate Governance Code, and succession planning and employee development for Group executives. In its second meeting, the Human Resources Committee concentrated mainly on the somewhat earlier departure of Patrick Thomas as CEO of the Group as of May 31, 2018, and the corresponding earlier appointment of Dr. Markus Steilemann as the new CEO as of June 1, 2018. The Human Resources Committee's last two meetings focused on an in-depth discussion of the Guidelines for Sustainable Management Board Compensation; a review of the current organization of the Board of Management against the backdrop of the Group's business strategy; a review of Board of Management compensation; the raising of growth, profitability, and liquidity thresholds for the Covestro Profit Sharing Plan for the period from 2019 to 2021; and the appointment of Dr. Thomas Toepfer as the Group's new Labor Director effective January 1, 2019.

The **Nominations Committee** met once in the reporting year on December 7, 2018. Considering the Covestro Group's business activities, current strategy, and future business performance, the Committee again examined the composition of the Supervisory Board and the qualifications of its members. Taking the developed skill matrix into account, searches for suitable future Supervisory Board members will focus especially on personal experience with digitalization, innovation and technology.

Financial statements / audits

The financial statements of Covestro AG were prepared according to the requirements of the German Commercial Code (HGB) and German Stock Corporation Act (AktG). The consolidated financial statements of the Covestro Group were prepared according to the German Commercial Code and the International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU). The combined management report including the Group's nonfinancial statement was prepared according to the German Commercial Code. The auditor, KPMG AG Wirtschaftsprüfungsgesellschaft, Düsseldorf, audited the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report including the Group's nonfinancial statement. The conduct and results of the audit are explained in the auditor's reports. According to the auditor's results, Covestro has complied with the German Commercial Code, the German Stock Corporation Act and/or the IFRS regulations as adopted by the EU, and issues unqualified opinions on the financial statements of Covestro AG and the

The Supervisory Board of Covestro AG (from left to right): Irena Küstner, Prof. Dr. Rolf Nonnenmacher, Petra Kronen, Dr. Ulrich Liman, Dr. Richard Pott, Ferdinando Falco Beccalli, Johannes Dietsch, Frank Werth, Regine Stachelhaus, Marc Stothfang, Peter Hausmann and Dr. Christine Bortenländer

consolidated financial statements of the Covestro Group. The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report, and the audit reports were submitted to all members of the Supervisory Board. They were discussed in detail by the Audit Committee and at a meeting of the full Supervisory Board. The auditor submitted a report on both occasions and was present during the discussions.

The Supervisory Board examined the financial statements of Covestro AG, the proposal for the use of the distributable profit, the consolidated financial statements of the Covestro Group, and the combined management report including the Group's nonfinancial statement. It had no objections and thus concurred with the result of the audit.

The Supervisory Board approved the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group prepared by the Board of Management. The financial statements of Covestro AG are thus confirmed. The Supervisory Board is in agreement with the combined management report and, in particular, with the assessment of the future development of the enterprise. It also concurs with the dividend policy and the decision to add to the company's reserves. It assents to the proposal for the use of the distributable profit, which provides for payment of a dividend of 2.40 euro per share.

Corporate governance and declaration of conformity

During the reporting year, the Supervisory Board again extensively addressed Covestro's corporate governance, taking into account the German Corporate Governance Code and, together with the Board of Management, submitted an unqualified declaration of conformity in accordance with Section 161 of the German Stock Corporation Act in December 2018 based on the Code as amended on February 7, 2017. The declaration of conformity was subsequently made permanently available to stockholders on the company's website.

Expression of appreciation for the Board of Management and employees

The Supervisory Board would like to thank the Board of Management and all of Covestro's employees for their unwavering dedication and notable accomplishments in the 2018 fiscal year. We wish you all success in further implementing the company's strategic goals.

Leverkusen (Germany), February 22, 2019

For the Supervisory Board

Dr. Richard Pott

Chairman

GOVERNANCE BODIES

Board of Management

The Board of Management of Covestro AG as of December 31, 2018

Name	Position	Areas of responsibility	Memberships on other supervisory boards
Dr. Markus Steilemann	Chief Executive Officer Chief Commercial Officer	• Polyurethanes • Polycarbonates • Coatings, Adhesives, Specialties • Communications • Corporate Audit • Human Resources • Innovation Management & Commercial & Services • Strategy • Supply Chain Center EMLA • Supply Chain Center NAFTA • Supply Chain Center APAC • Sustainability	
Dr. Klaus Schäfer	Chief Technology Officer Labor Director (until December 2018)	• Global Project Engineering • Health, Safety, Environment & Quality • Production & Technology • Procurement • Site Management NRW • Site Management Baytown • Site Management Shanghai	
Dr. Thomas Toepfer	Chief Financial Officer Labor Director (since January 2019)	• Accounting • Controlling • Finance • Information Technology • Investor Relations • Law, Intellectual Property & Compliance • Portfolio Development • Taxes	

Supervisory Board

The Supervisory Board comprises the following member:

Name Function	Membership on the Supervisory Board	Position	Memberships on other supervisory boards and memberships in comparable supervising bodies of German or foreign corporations
Dr. Richard Pott (Chair)	Member of the Supervisory Board since August 2015	• Former Member of the Board of Management and Labor Director of Bayer AG	• Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Freudenberg SE • Member of the Supervisory Board of SCHOTT AG
Petra Kronen (Vice Chair)	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Uerdingen site • Chair of the General Works Council of Covestro • Vice Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	• Vice Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Bayer Beistandskasse VVaG
Ferdinando Falco Beccalli	Member of the Supervisory Board since October 2015	• Chair of the Board of Falco Enterprises AG • Chair of the Board of Falco Holding SA	• Member of the Supervisory Board of Covestro Deutschland AG
Dr. Christine Bortenlänger	Member of the Supervisory Board since October 2015	• Executive Member of the Board of Deutsches Aktieninstitut e.V.	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of MTU Aero Engines AG (since April 2018) • Member of the Supervisory Board of OSRAM GmbH • Member of the Supervisory Board of OSRAM Licht AG • Member of the Supervisory Board of SGL Carbon SE (until June 2018) • Member of the Supervisory Board of TÜV SÜD AG
Johannes Dietsch	Member of the Supervisory Board since August 2015	• Member of the Board of Management of Bayer AG (until May 2018) • Member of the Board of Management of thyssenkrupp AG (since February 2019)	• Member of the Supervisory Board of Covestro Deutschland AG • Chair of the Supervisory Board of Bayer Business Services GmbH (until May 2018)
Peter Hausmann	Member of the Supervisory Board since October 2015	• Secretary of the German Mining, Chemical and Energy Industrial Union (IG BCE)	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Henkel AG & Co. KGaA (until April 2018) • Member of the Supervisory Board of Continental AG (until October 2018) • Vice Chair of the Supervisory Board of 50Hertz Transmission GmbH • Vice Chair of the Supervisory Board of Vivawest GmbH (until April 2018) • Vice Chair of the Supervisory Board of Vivawest Wohnen GmbH (until April 2018)
Irena Küstner	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Leverkusen site • Chair of the Group Works Council of Covestro • Vice Chair of the General Works Council of Covestro • Employee of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG
Dr. Ulrich Liman	Member of the Supervisory Board since January 2018	• Chair of the Managerial Employees' Committee of Covestro Deutschland AG • Manager of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG

→

→

Name Function	Membership on the Supervisory Board	Position	Memberships on other supervisory boards and memberships in comparable supervising bodies of German or foreign corporations
Prof. Dr. Rolf Nonnenmacher	Member of the Supervisory Board since August 2015	• Certified Accountant	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Continental AG • Member of the Supervisory Board of ProSiebenSat.1 Media SE
Regine Stachelhaus	Member of the Supervisory Board since October 2015	• Former Member of the Board of Management and Labor Director of E.ON SE	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of CECONOMY AG • Member of the Supervisory Board of SPIE Deutschland und Zentraleuropa GmbH • Director of SPIE SA, France • Nonexecutive director of ComputaCenter plc, United Kingdom
Marc Stothfang	Member of the Supervisory Board since February 2017	• Chair of the Works Council of Covestro at the Brunsbüttel site • Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	
Frank Werth	Member of the Supervisory Board since September 2016	• District Manager of the German Mining, Chemical and Energy Industrial Union (IG BCE) – district Leverkusen	• Member of the Supervisory Board of Covestro Deutschland AG

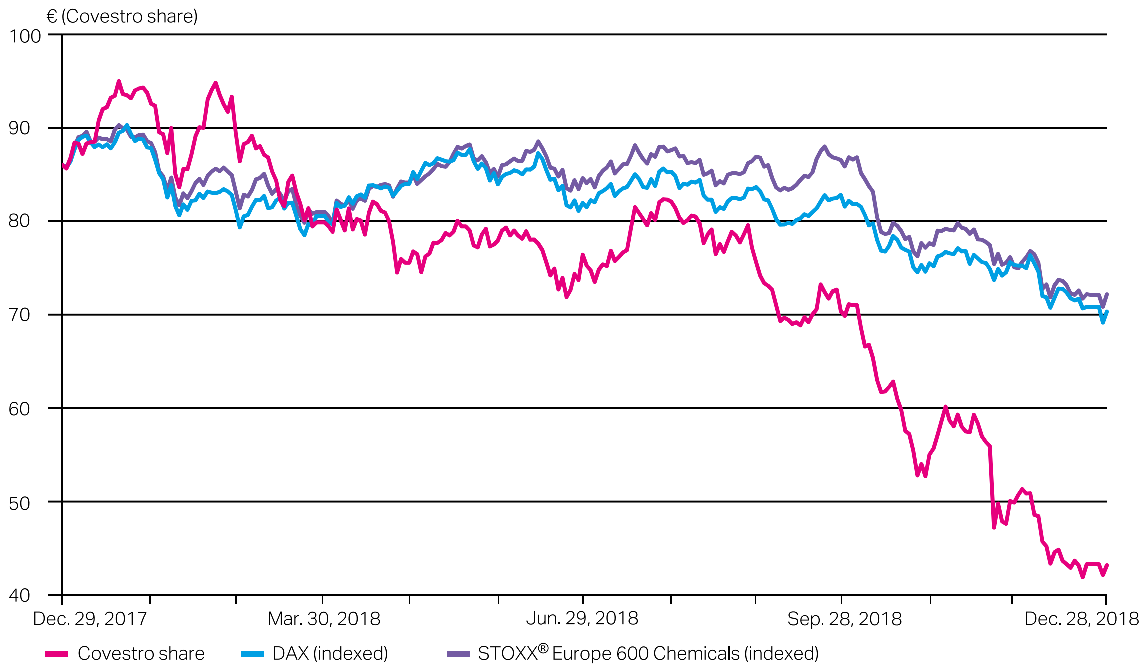
Members of Committees

The committees of the Supervisory Board of Covestro AG as of December 31, 2018

Presidial Committee	Nominations Committee	Audit Committee	Human Resources Committee
Dr. Richard Pott (Chair)	**Dr. Richard Pott** (Chair)	**Prof. Dr. Rolf Nonnenmacher** (Chair)	**Dr. Richard Pott** (Chair)
Peter Hausmann	**Ferdinando Falco Beccalli**	**Johannes Dietsch**	**Johannes Dietsch**
Petra Kronen	**Regine Stachelhaus**	**Peter Hausmann**	**Petra Kronen**
Regine Stachelhaus		**Petra Kronen**	**Dr. Ulrich Liman**
		Irena Küstner	
		Dr. Richard Pott	

COVESTRO ON THE CAPITAL MARKET

Performance of Covestro Stock Versus Market in Fiscal Year 2018



Covestro closing prices Xetra®; source: Bloomberg

Inclusion in the DAX

On March 19, 2018, Deutsche Börse AG added Covestro to the German benchmark index, the DAX. As a result, Covestro is now one of the 30 most important listed companies in Germany. Covestro is also included in the STOXX® Europe 600 Index, the MSCI Global Standard Germany Index, and the FTSE Global Equity Index Series.

Covestro stock in a weak environment

On the whole, the European stock market was mediocre in 2018: Many indices such as the EURO STOXX 50® posted a negative performance. At the end of the year, the DAX, which is relevant for Covestro, was down 18.3% compared with its value at year end 2017, while the STOXX® Europe 600 Chemicals Index fell 15.6% during the same period.

Hallmarks of the past year included uncertainties such as the trade dispute between the United States and China, rising debt in Italy, and the Brexit negotiations between the European Union and the United Kingdom. This environment in capital markets also affected Covestro's stock. The Xetra® closing price was €43.18 at the end of 2018. The high price for the year of €95.00 – also the latest record in Covestro's capital market history – was reached on January 19, 2018. On December 20, 2018, Covestro stock dipped to its low for the year with a closing price of €41.90.

Compared with the closing price of €86.03 for 2017, this represents a decline of 49.8% for Covestro's stock in 2018. Including the dividend of €2.20 per share paid out in April 2018, Covestro's stock performance (with dividend reinvestment) was –48.4%.

At the end of the reporting period, Covestro's market capitalization stood at around €7.9 billion based on the reduced capital stock of 183 million shares. The average daily trading volume was around 1.2 million shares. In a ranking by German stock indices, the company therefore came in 23rd in terms of trading volume and 34th in terms of market capitalization at year end 2018.

Covestro has been listed in the DAX since March 19, 2018.

The Board of Management and the Supervisory Board of Covestro AG will propose a dividend of €2.40 per share carrying dividend rights to the Annual General Meeting on April 12, 2019. This represents a dividend yield of 5.6% based on the closing price on December 28, 2018.

Covestro Share at a Glance

		2017	2018
Average daily turnover	million shares	0.6	1.2
Year-end closing price	€	86.03	43.18
High	€	88.20	95.00
Low	€	62.07	41.90
Outstanding shares (closing date)	million shares	202.5	182.7
Market capitalization (closing date)	€ billion	17.4	7.9
Stock price development	%	+32.0	–49.8
Stock price performance (with dividend reinvestment)	%	+34,5	–48.4
Dividend per share	€	2.20	2.40

Covestro closing prices Xetra®; source: Bloomberg

Share buy-back program completed and capital stock reduced

On December 4, 2018, the share buy-back program announced in the fall of 2017 was completed successfully. This program involved the company buying back treasury shares amounting to as much as €1.5 billion, or up to 10% of the capital stock. From November 21, 2017, the company acquired shares in three tranches totaling more than 9.8% of the capital stock and valued at nearly €1.5 billion. As a result, Covestro successfully concluded the program around half a year earlier than envisioned.

The Board of Management intends to propose a new authorization to acquire treasury shares amounting to no more than 10% of the company's capital stock at the upcoming Annual General Meeting. According to the German Stock Corporation Act, authorization such as this is required for deciding on possible additional share buy-backs in the future.

→

After completion of the current program, the Board of Management also resolved to retire 19.5 million treasury shares and therefore reduce the capital stock by €19.5 million. Since then, the capital stock of Covestro AG has amounted to €183 million, divided into 183 million no-par value bearer shares.

Substantially higher free float

Bayer AG reduced its direct interest in Covestro by another 21 million shares at the start of 2018. The share placement took place after the markets closed on January 10, 2018, and was aimed exclusively at institutional investors. On May 3, 2018, Bayer AG initiated the sale of a further block of around 29 million Covestro shares. This block was once again offered exclusively to institutional investors. Bayer AG now only holds around 14 million Covestro shares with which the company has stated it intends to settle the 2017 exchangeable bond maturing in 2020. Accordingly, around 92% of Covestro's shares were in free float at the end of 2018.

Moody's upgrades credit rating

The rating agency Moody's Investors Service, London, has updated Covestro's existing investment-grade rating as part of a regular review. On July 30, 2018, Moody's upgraded the company's credit rating from Baa2 to Baa1 with stable outlook.

The ratings analysts based their decision in part on the consistently strong operating results and cash flows that Covestro has generated in recent years. The assessment stated that this led to faster paydown of debt than originally expected. Covestro AG's financial indicators therefore placed the company in a better rating category.

The Baa1 rating with a stable outlook puts Covestro in an excellent position for obtaining financing, particularly on the international debt market.

ADR program successful in second year

Since December 1, 2016, the American Depositary Receipt (ADR) program has granted global investors simplified access to Covestro stock. The Covestro ADR is traded over the counter in the United States under the COVTY ticker symbol. The total number of outstanding depositary receipts reached approximately 1.2 million (previous year: around 191,000) with continued high monthly growth rates.

Buy recommendation from nine analysts

At the end of 2018, Covestro stock was covered by 24 financial analysts, with nine issuing buy recommendations and 15 giving neutral assessments. None of the analysts recommended selling Covestro stock. The average share price target was approximately €60 at year end.

Basic Covestro Share Information

Capital stock	€183,000,000
Outstanding shares (year end)	182,704,602
Share class	No-par ordinary bearer shares
ISIN	DE0006062144
WKN	606214
Ticker symbol	1COV
Reuters symbol	1COV.DE
Bloomberg symbol	1COV GY
Market segment	Regulated market
Transparency level	Prime standard
Sector	Chemicals
Index	DAX

Combined Management Report of the Covestro Group and Covestro AG as of December 31, 2018

COMBINED MANAGEMENT REPORT

The combined management report for 2018 pertains to both the Covestro Group and Covestro AG. The presentation of the business performance as well as the position of and the forecast for key data pertain to the Covestro Group, except where otherwise indicated. Information that applies to Covestro AG only is identified accordingly. In the Report on Economic Position, the information disclosed pursuant to the German Commercial Code (HGB) with regard to Covestro AG is provided in a separate section. In addition, the nonfinancial statement pursuant to Section 315b HGB is an integrated part of the Group Management Report. A nonfinancial statement for Covestro AG does not have to be provided at this time.

Covestro Group at a Glance

1. Group Structure and Business Model

Organization

See "Scope of consolidation and investments" section in note 5.1 of the Notes to the Consolidated Financial Statements

Covestro is one of the leading global suppliers of high-tech polymer materials and application solutions developed for these materials. Covestro AG, the parent company of the Covestro Group, is headquartered in Leverkusen (Germany). It is listed on the stock exchange in Germany and has been included in the leading German index DAX since March 19, 2018. In line with its product portfolio, Covestro is divided into three operational reporting segments: Polyurethanes (PUR), Polycarbonates (PCS), and Coatings, Adhesives, Specialties (CAS). The administrative functions are consolidated within the central units. As of December 31, 2018, the Covestro Group comprised 49 consolidated companies in 24 countries in addition to Covestro AG and employed around 16,770 employees[2].

See section 22 "Declaration on Corporate Governance"

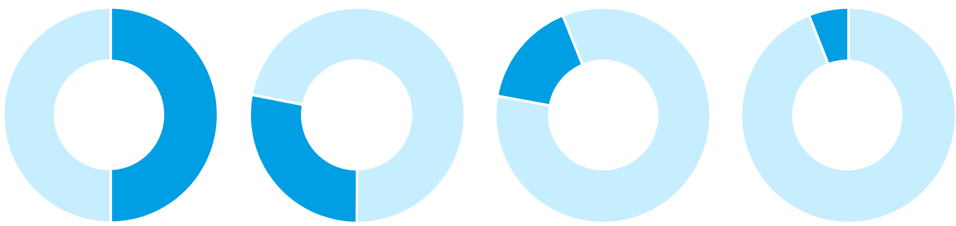
The Board of Management of Covestro AG manages the operational businesses and defines and monitors corporate targets. Dr. Markus Steilemann became the Chief Executive Officer of Covestro in June 2018, succeeding Patrick Thomas in this position. In addition to this role, he remains responsible for innovation, marketing, and sales. Dr. Thomas Toepfer has been Chief Financial Officer since April 2018. Chief Technology Officer Dr. Klaus Schäfer is responsible for production and technology on the Board of Management and for overseeing all production sites. He also carried out the role of Labor Director through December 31, 2018. Dr. Thomas Toepfer assumed the role of Labor Director as of January 1, 2019. The twelve-member Supervisory Board advises and oversees the Board of Management. In accordance with the German Codetermination Act, half the members of the Supervisory Board are elected by the stockholders and half by the company's employees. Dr. Richard Pott holds the office of Chair of the Supervisory Board.

Group Structure

COVESTRO
Board of Management

Central Units

Segments	**Polyurethanes**	**Polycarbonates**	**Coatings, Adhesives, Specialties**	**Other[1]**
Products	**Precursors for rigid and flexible foams** • Diphenylmethane diisocyanate (MDI) • Toluylen diisocyanate (TDI) • Polyether polyols	**High-performance plastics for versatile applications** • Granules • Semifinished products • Composite materials	**Precursors for coatings, adhesives and specialties** • Base and modified isocyanates • Polyurethane dispersions • Specialty elastomers • Films	**Various chemical by-products, e.g.** • Sodium hydroxide solution • Hydrochloric acid
Share of Group sales				



[1] Business activities that cannot be assigned to the Polyurethanes, Polycarbonates, or Coatings, Adhesives, Specialties segments. These include, for instance, the marketing of by-products of chlorine production and use.

[2] The number of employees on either permanent or temporary contracts refers to full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

Business model

We produce precursors for polyurethane foams and the high-performance plastic polycarbonate as well as precursors for coatings, adhesives, sealants and specialty products, including specialty films. Other precursors such as chlorine and by-products like styrene are also part of Covestro's range of products.

The company's materials are used in many areas of modern life – the array of products ranges from insulation for refrigerators and entire buildings through laptop and cell phone cases to scratch-resistant and fast-drying vehicle coatings and film coverings for personal identification cards. Covestro therefore covers a wide variety of sectors. The company's main customers are from the automotive, construction, wood processing and furniture industries, and from the electrical and electronics industries. The products are also used in sectors such as sports and leisure, cosmetics and health, as well as in the chemical industry itself.

Going forward, Covestro aims to position the company even more broadly, thus further reducing the product range's exposure to cyclical fluctuations. Covestro's focus in this connection is on innovation and sustainability. To this end, we closely monitor the developments in our sales and consumer markets and support the growth of our customers. Together with customers as well as with business and scientific partners, Covestro works continuously to further advance products, technologies and application solutions.

Global megatrends play a considerable role in this process: progressing climate change, increasing mobility, a growing global population and rising urbanization are changing the lives of billions of people. Consequently, the polymer industry will have to change. Businesses such as Covestro are facing new tasks and require innovative solutions to handle them. The focus is primarily on the topics of "Renewable energy," "Energy-efficient transportation," and "Sustainable and affordable living."

Covestro's aim is to pave the way and support these trends with its materials. By replacing traditional materials with durable, light, environmentally-compatible and cost-effective materials, Covestro contributes to lightweight construction in the automotive industry, increases the energy efficiency of living spaces through the use of new insulating materials and improves the shelf-life of food through improvements in insulation along the entire refrigeration chain.

Segments

Polyurethanes

In the PUR segment, Covestro primarily develops, produces and markets chemical precursors for the manufacture of polyurethane foams. These precursors are toluene diisocyanate (TDI), diphenylmethane diisocyanate (MDI) and polyether polyols. Flexible polyurethane foam is used in products such as mattresses, upholstered furniture and car seats, thus making day-to-day life more comfortable. Rigid polyurethane foam is used mainly to efficiently insulate buildings and refrigeration appliances. In doing so, it contributes to reducing energy consumption. In 2018 Covestro was among the top suppliers in the global polyurethane industry in 2018.

Polycarbonates

In 2018, Covestro was also one of the leading global suppliers of polycarbonates. In the PCS segment, Covestro not only produces and distributes this high-performance plastic but also works to continually improve it. Polycarbonates are extraordinarily light, transparent, unbreakable and moldable. Available as granules, composite materials and semifinished products, manufacturers use this versatile material in a wide variety of products such as vehicles (e.g. passenger compartment and vehicle lighting), buildings (e.g. roof structures), electrical and electronic devices (e.g. cords and laptop cases), and for medical equipment.

Coatings, Adhesives, Specialties

In the CAS segment, Covestro was once again among the leading global suppliers in 2018. The focus hereby is on both aliphatic and aromatic isocyanates and their derivatives as well as polyurethane dispersions. These are required for the production of coatings, adhesives sealants, and specialty products. The latter comprise specialty elastomers, high-quality films and precursors for cosmetics, textiles and medical products. These materials serve to protect, bond, seal or functionalize a wide variety of surfaces. The main areas of application are automotive and transportation, infrastructure and construction, wood processing and furniture.

Production sites

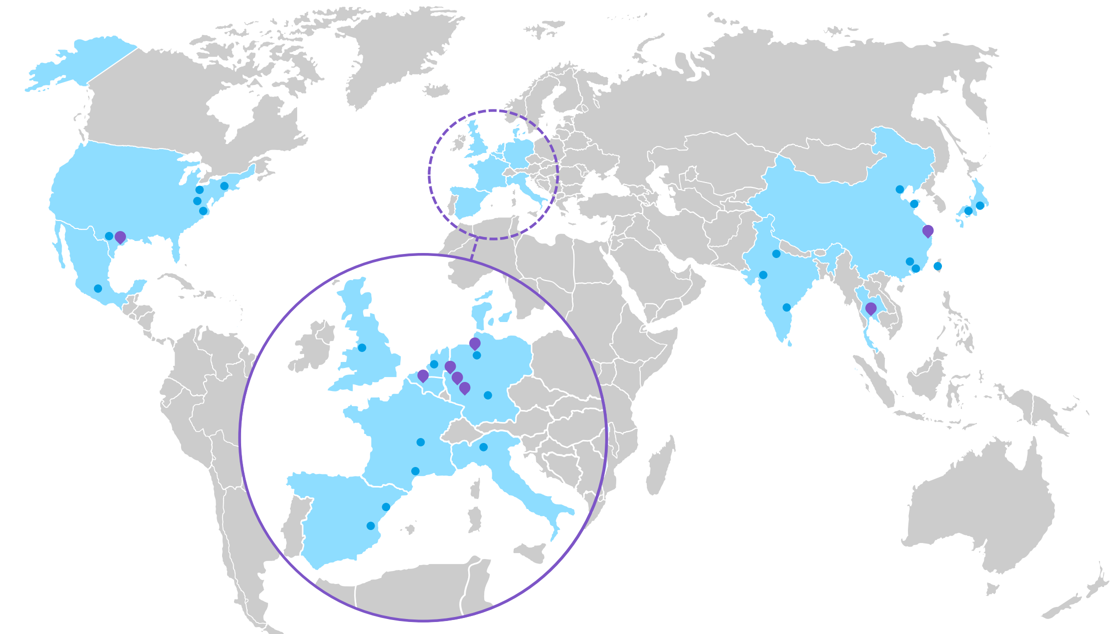
Covestro operates production facilities throughout the world for the different product groups. In terms of our production processes, the plant structure is characterized by a backward integration for key raw materials, such as chlorine and propylene oxide, thus ensuring optimal value creation. In addition, Covestro has installed comprehensive measures to secure and steadily improve performance in the fields of safety, costs and plant availability.

Covestro has 33 production sites located in Europe, America and Asia, eight of which have world-scale facilities. The latter are large-capacity production facilities that serve in particular to ensure that customers around the world are supplied reliably and efficiently. We operate additional plants in selected countries to manufacture polyurethane precursors and products of the Coatings, Adhesives, Specialties segment. Moreover, we operate production plants in selected countries where we compound polycarbonate resins to meet specific customer requirements.

The following table shows Covestro's geographical presence and the 33 production sites.

Covestro Production Sites[1]

NAFTA	EMLA	APAC



NAFTA	EMLA	APAC
Santa Clara (Mexico), PUR/CAS	**Antwerp (Belgium), PUR/PCS**	Guangzhou (China), PCS
Baytown (USA), PUR/PCS/CAS	Bomlitz (Germany), CAS	**Shanghai (China), PUR/PCS/CAS**
Channelview (USA), PUR	**Brunsbüttel (Germany), PUR**	Shenzhen (China), CAS
New Martinsville (USA), PUR/CAS	**Dormagen (Germany), PUR/CAS**	Tianjin (China), CAS
Newark (USA), PCS	**Krefeld-Uerdingen (Germany), PUR/PCS**	Ankleshwar (India), CAS
South Charleston (USA), PUR	**Leverkusen (Germany), CAS**	Cuddalore (India), CAS
South Deerfield (USA), CAS	Markt Bibart (Germany), PCS	Greater Noida (India), PCS
	Fos-sur-Mer (France), PUR	Niihama (Japan), PUR/CAS
	Romans-sur-Isère (France), CAS	Sakai (Japan), CAS
	Filago (Italy), PCS	Linyuan (Taiwan), PUR
	Rotterdam (Netherlands), PUR	Changhua (Taiwan), CAS
	Barcelona (Spain), CAS	**Map Ta Phut (Thailand), PCS/CAS**
Production sites with world-scale facilities	Tarragona (Spain), PUR	
	Cheadle Hulme (United Kingdom), CAS	

[1] Excluding sites of PCS sheet business and PUR system business

See note 14 "Property, Plant and Equipment" in the Notes to the Consolidated Financial Statements

We invest continuously in our global production network in order to maintain our production facilities and their infrastructure, to optimize manufacturing processes and to expand capacities in line with market developments. To do so, Covestro relies on advanced and environmentally friendly production processes and continually optimizes its technologies. As part of the Group's strategy, Covestro conducts a program under the name OSI2020 for the digitalization of technical, operational and maintenance activities.

Procurement market

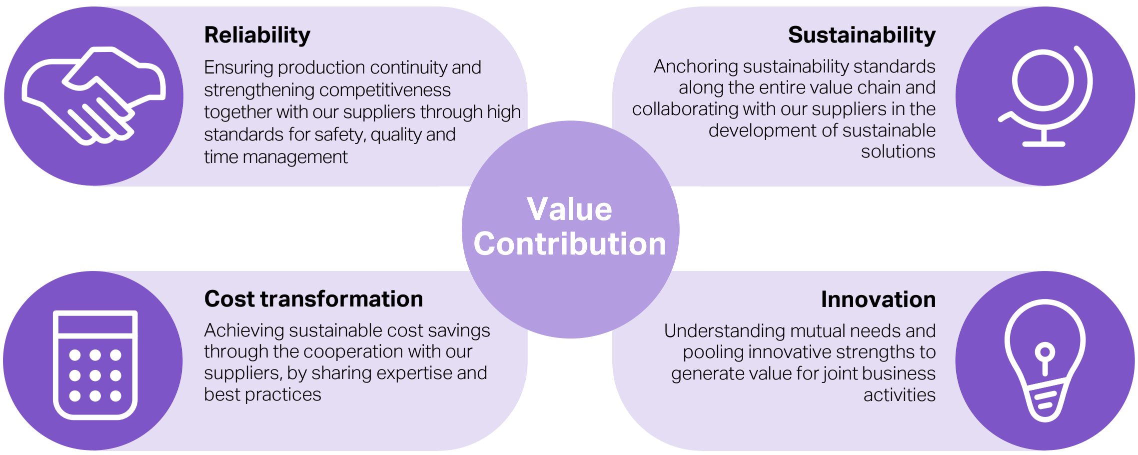
Procurement provides all areas of the company around the world with goods and services in a timely manner and at suitable market conditions. In doing so, it ensures the adherence of our Group's high quality standards. Furthermore, Procurement makes sure that Covestro's ethical and ecological principles are upheld. The principles of our procurement policy are set forth in a directive that is binding on all employees throughout the Covestro Group.

In 2018, goods and services were procured from some 15,500 suppliers (previous year: some 15,400) in 71 countries (previous year: 72) for approximately €10.1 billion (previous year: €9.3 billion). Distribution of purchasing volumes was balanced across the regions.

Procurement at Covestro is centrally steered and managed by the Procurement unit. The objective is to generate a competitive advantage for Covestro and make a decisive contribution to the overall value. In doing so, Covestro is guided by four strategic principles: reliability, sustainability, cost transformation and innovation.

See section 6 "Sustainability in Supplier Management"

Strategic principles in Procurement



The main precursors for our products are petrochemical substances such as benzene, toluene, propylene/propylene oxide, phenol and acetone – which collectively account for some 40% of our procurement spend. In addition, the operation of our production facilities requires large amounts of energy, that we primarily procure from external sources and in the form of electricity and steam. We endeavor to procure critical raw materials from within the Group or through joint ventures in order to reduce the dependency on external supply sources. To name just two examples: Covestro produces chlorine in-house and procures propylene oxide through a joint venture. We regularly monitor the sustainability and quality of our suppliers and ensure that they comply with internal and external standards.

Distribution and logistics

We are committed to supplying our customers reliably. We understand this to mean that the right product arrives at the right place at the right time and in the agreed upon quality without requiring subsequent improvements. To achieve this goal, our distribution maintains close contact with our customers and supports the operational business. In addition, it advises our customers on how to make the best use of our range of e-commerce services such as the web shop and online trading platform, serves as a point of contact for complaints and endeavors to acquire follow-up orders. In this way, distribution is a key contributor to the satisfaction of our customers and their loyalty to Covestro. Distribution is also responsible for new business.

Covestro relies on a regional distribution and marketing structure for its distribution activities. Each operational reporting segment distributes and markets its own products through its own distribution organization and through trading houses and local distributors. Major customers with global operations are an exception to this. These are serviced directly by our key account managers. Chemical by-products such as sodium hydroxide solution are marketed primarily outside of the operational reporting segments. Certain by-products such as styrene are also marketed within the operational reporting segments.

Three regional Supply Chain Centers for the EMLA, NAFTA and APAC regions provide assistance to the offices in supporting our customers and processing customer orders – from order acceptance through shipment planning, to invoicing and complaint acceptance. This organization enables us to process orders particularly smoothly and swiftly. We make use of channels such as e-commerce platforms for handling orders. Our customers can place orders and check the status of their orders at any time through the Order@Covestro online shop.

The transportation of our products to customers is handled by logistics service providers that are selected and evaluated according to stringent safety, environmental, and quality criteria. Alongside the protection of people and the environment, delivery reliability is particularly important. The preferred mode of transportation is rail or intermodal – in other words using a combination of different modes of transportation. When selecting the mode of transportation, we also consider resource efficiency and seek to reduce associated CO_2 emissions. Customers are supplied from close-to-production warehouses, wherever permitted by transportation times and delivery reliability. In the case of longer distances and according to the reliability of the mode of transport, goods are temporarily stored in regional distribution centers and then dispatched with shorter delivery times.

In order to ensure a high level of customer satisfaction, our foremost quality target is avoiding errors in all of our processes. Customer satisfaction is regularly gauged and analyzed worldwide in a global management system. In doing so, we take into account customer satisfaction analyses and supplier assessments. Furthermore, we request feedback from our customers from which we derive corrective and preventive measures for the purpose of further increasing quality and customer satisfaction and lowering the error rate and the incidence of complaints. In 2017, Covestro recorded 6.88 complaints for every 1,000 deliveries. In the year under review, that number fell to only 6.72 complaints per 1,000 deliveries.

2. Strategy and Management

Principles guiding our actions

Vision and mission

Climate change, increasing mobility, a growing global population, and rising urbanization: global megatrends such as these represent tremendous challenges. Covestro is facing these challenges, uniting business success with sustainability. The goal is to realize Covestro's vision: to make the world a brighter place.

For more information, see section 2, sub-section "Company policies and voluntary commitments" in the GRI Supplement

We aim to promote innovation and growth with profitable products and technologies that benefit society and reduce the impact on the environment. This is our mission. In pursuing it, we rely on technologies that reduce energy consumption and emissions in our production processes. And we are replacing traditional materials such as glass and metal, which are manufactured less sustainably or have a less sustainable life cycle, with products and plastics we develop. We accomplish this by thinking ahead and, instead of fossil resources, developing alternative building blocks for our chemicals that are either omnipresent or far more sustainable.

Corporate values

Covestro is proud of its corporate values, summarized as C^3: curious, courageous and colorful. These values guide all of the Group's employees and are reflected in their daily thoughts and actions.

Curious

We are proud of our past, but we are not defined by it. We never settle for the status quo and think ahead. Our curiosity drives us to listen to our customers and suppliers and respond with creative and unexpected solutions. We are responsive to what is happening around us and believe that speed and flexibility will give us an advantage over our competitors. We are open to new ideas and hungry for progress.

Curiosity is the engine that drives us.

Courageous

We look toward the future and see opportunities where others see limitations. Where others ask "why?", we reply "why not?" Our courage permeates our entire business – from partnerships to business models. We stand on a foundation of knowledge and experience that allows us to act courageously and push the boundaries of innovation.

We have courage and integrity. We do what is right, not just what is convenient.

Colorful

In a corporate world that can often be dull, we make a difference. We are optimistic and resourceful and use every color in our palette to create solutions that inspire our customers and partners. We value strong customer, supplier and employee relationships and believe that humanity helps us to create a rainbow of opportunities. We are convinced that diversity and inclusiveness not only promote innovation, sustainability and employee engagement within our workforce, but also improve decision-making processes and contribute to our success.

We believe diversity drives creativity and multiple viewpoints allow us to solve problems in innovative ways.

Corporate culture and leadership profile

The corporate culture is a key strategic pillar for Covestro and is based on the company's values and vision. Moreover, a culture firmly rooted in the company enables the implementation of the strategy, therefore ensuring the company's long-term success. We live in a culture that facilitates fast decisions, innovative approaches and close proximity to the customer. At the same time, diversity is at the heart of our corporate culture. Diversity is our strength – inclusion is our obligation.

This culture is influenced by the employees and in particular by the managers who are responsible for setting a good example through their conduct and embodying the culture. The expectations for this transformational leadership are described as follows: we want value-based leadership motivated by personal mindset as well as corporate values. Conducive leadership helps to improve employees' ability to maximize their full potential. It also ensures that the employees possess the necessary decision-making authority and have access to optimal work and safety conditions.

Sustainability approach

In keeping with our vision, we want to make an equal contribution to increasing the overall value at the economic, environmental and social levels. Our decisions and our actions always take into account the three Ps of sustainability – people, planet and profit. Our actions are oriented toward a positive impact on at least two of the three Ps, while at the same time ensuring no harm is done to any of them. We take a holistic view of every decision and every action as well as their consequences – which, all in all, reflects an integral part of the Group's strategy and corporate governance.

Strategic goals and activities

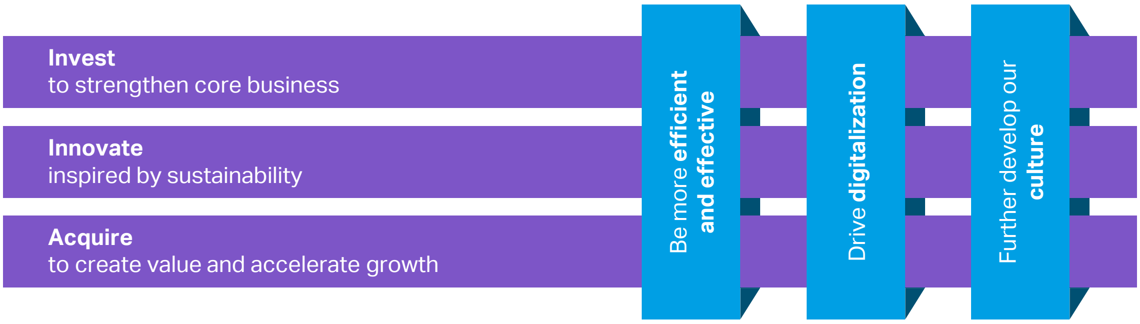
Group strategy

For more information, see section 2, subsection "Covestro and the UN Sustainable Development Goals" in the GRI Supplement

Our overarching goal is to make the world a brighter place, which is in keeping with our vision. To this end, the company provides innovative products, technologies and application solutions. In particular, our activities are aligned with the UN Sustainable Development Goals (SDGs) in support of global progress at the ecological, economic and social levels. Experts agree that these goals have significant economic potential and could lead to profound changes and above-average growth in the industrial sectors important to Covestro.

Our current strategy was developed with a view primarily to taking full advantage of business opportunities resulting from global megatrends and sustainability issues. This is all part of our efforts to continue growing profitably in the years to come and to exceed global economic growth rates overall. We intend to achieve this using six strategic pillars.

Strategic pillars



Investing to strengthen the core business

Covestro expects to see strong growth in its markets and plans to successfully leverage this development through optimal participation. We will therefore significantly expand production capacities in our core lines of business. To this end, we plan to invest in excess of the depreciation level in the years to come. As a rule, this concerns production facilities across all product groups and at all of the major sites. We are adding skilled staff and resources in order to ensure optimal technical implementation of the corresponding projects.

Innovating to promote greater sustainability

Sustainability is a central concern, and it shapes our activities all along the entire value chain. We consider sustainability to represent an economic opportunity benefiting all interest groups. In the years to come, we therefore intend to focus our research and development even more on sustainability issues such as electromobility as well as energy- and cost-efficient construction. Accordingly, we plan to invest even more heavily in research and development projects oriented toward the UN Sustainable Development Goals.

Growth options within the circular economy are one key element. This pertains both to our existing business with polycarbonate recyclates as well as to the area of polyurethanes. Here, we closely analyzed products that are at the end of their life cycle as the basis for future raw materials. Over the years to come, we will conduct the corresponding economic and environmental analyses of both recycling technologies and new product developments. This underscores our commitment to creating sustainable solutions for meeting the challenges of the future.

Acquiring to create value and accelerate growth

We are actively seeking acquisition options in order to expand our portfolio. They represent another way to participate in the rapid market growth that we anticipate in the years to come stemming from issues related to the future and sustainability. We carefully evaluate potential acquisitions to determine whether they – with regard to our stockholders – increase Covestro's enterprise value and the impact they may have on other stakeholders. Furthermore, takeover candidates must also suit our existing lines of business, our entire company and our corporate culture.

Becoming more efficient and effective

To increase effectiveness and efficiency throughout the entire company, Covestro rolled out a Group-wide performance program entitled Perspective in 2018. The program's primary objectives are to further refine work methods and cross-divisional processes, in addition to continually improving our competitive and cost position. These measures are expected to generate a long-term cost savings of approximately €350 million by 2021 at the latest, which in turn will be used to limit an increase in operating costs.

Drive digitalization

With an extensive program, we aim to increasingly take advantage of the opportunities arising from digitalization. Our primary aim is to set new standards for how we work with our customers. At the same time, all employees should benefit from digitalization. To achieve this goal, Covestro anchors digital technologies and work activities in production, along the supply chain, in research and development, in the administrative functions and at all points of contact with the customer. In 2018, we continued to work on and test a digital trading platform where customers will be able to purchase standard products from Covestro and also, where applicable, from other providers. Selected business entities have partially or entirely shifted their sales to the platform, which is now integrated into the SAP processing system, and have managed to reach the expected volumes and sales with products sold through fixed-price and auction-style listings. Meanwhile, we are cooperating closely with customers in other industries on a global scale. The goal of this collaboration is to implement the customers' requests with regard to the design and functionality of our digital sales channels. To this end, we opened a flagship store on the leading Chinese B2B platform 1688.com, which is owned by the Alibaba group.

Shaping our corporate culture

In the coming years we intend to improve our corporate culture in such a way that it bolsters our efforts to successfully address future trends and meet market requirements. The purpose here is to tap into our internal potential to the fullest extent and reach our business goals by more intensively promoting innovative ideas and short chains of command. Influenced by the responsible conduct of our managers, this culture provides our employees with the framework for their day-to-day activities and ensures that all employees share the same values. In this way, we aim to put every employee in a position to be able to achieve their best performance.

Strategy of the Individual Segments

Polyurethanes

In the years to come, demand for polyurethanes is expected to grow at an above-average rate compared to the global economy. In the Polyurethanes segment (PUR), we aim to provide the precursors needed to tap into this development.

For more information, see section 3 in the GRI Supplement

The construction industry is one of the strategic industries where we are already strongly represented, and we intend to further expand this position. At the same time, we plan to take into account the growing need for sustainable solutions. In the future, our range of products should satisfy the demand for energy-efficient and affordable living spaces, mainly in the emerging economies. Considering the UN Sustainable Development Goals, there are some not yet fully developed segments that also warrant our attention – such as wind energy, where we provide materials for generation.

The PUR segment manufactures largely standardized products and the focus there is thus also on increasing efficiency through cost management as well as product and process innovations. In addition, we plan to develop new business models and improve existing ones. To achieve this, we are continually evaluating the potential for optimizing facilities and sites, in addition to opportunities to cooperate with other companies.

Polycarbonates

New forms of mobility call for innovative solutions. In the Polycarbonates segment (PCS), we are continually improving our product portfolio to take this trend into account. After all, materials with low weight, high-quality optics and transparency are particularly in demand in the automotive industry, such as in the promising electromobility market.

We intend to further increase the share of stable-margin business by focusing on the applications with more stringent requirements in the automotive as well as in the health and electronics/LED areas. Furthermore, through innovations such as fiber-reinforced composite materials, we plan to consolidate the technological position of the PCS segment and generate even more growth in differentiated markets.

With its distinct application expertise and global alignment, the PCS segment should grow at a higher rate than that of the global economy.

Coatings, Adhesives, Specialties

Producing precursors for coatings and adhesives is our main area of business in the Coatings, Adhesives, Specialties (CAS) segment. In this segment, we supply coatings and adhesives producers whose products are used in the automotive, construction and furniture industries, among others. We aim to secure and further build on our strong position. Of particular importance in achieving this are consistent cooperation along the entire value chain, the efficient expansion of our capacities and product development close to the customers. Furthermore, we are working on products that are as environmentally friendly as possible, do not require the use of solvents and utilize alternative raw materials such as plant biomass.

As in past years, Covestro also plans to grow at an above-average rate in the area of specialties thanks to our superior technological knowledge and our expertise in chemical formulations. In this way we aim to achieve new and profitable application areas for our products.

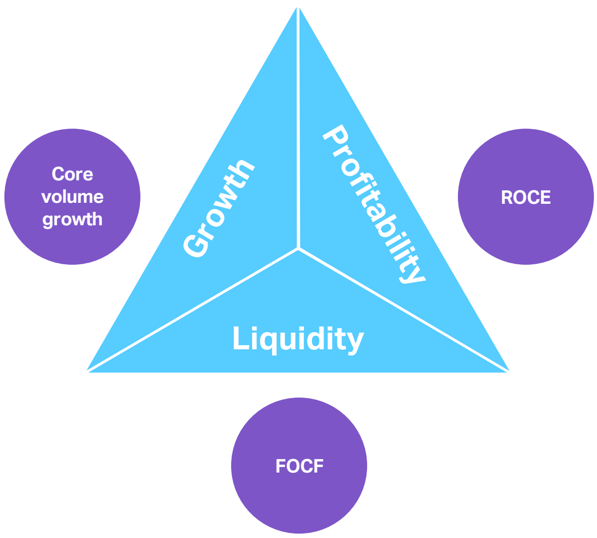
Management

Covestro's management system is aligned with long-term, profitable growth and continuous value creation. The Board of Management, the main decision-maker for the company, is responsible for our global business and approving the planning derived from our corporate strategy. In order to plan, manage, and monitor the development of our business, we use steering parameters which enable the company's business performance to be evaluated in a comprehensive and holistic manner. In addition, the Board of Management uses defined sustainability goals and selected nonfinancial performance indicators to govern the Group's sustainable orientation.

Business performance

The Covestro Group assesses business performance using key management indicators in the areas of growth, profitability and liquidity.

Covestro's Key Management Indicators



Growth of the Covestro Group is also measured in terms of the development of core volume growth[3]. In contrast to sales, this indicator is less influenced by raw material prices or currency effects.

The return on capital employed (ROCE) is the indicator used to assess the profitability of the Covestro Group, measuring the return the company achieves on the capital it uses. If ROCE exceeds the weighted average cost of capital (WACC), i.e. the minimum return expected by equity and debt capital providers, the company has created value.

Income after income taxes plus financial result, income tax expense, and depreciation and amortization (EBITDA) is the other indicator used to assess the operating profitability of Covestro and its reporting segments.

[3] Core volume growth 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.

The ability to generate a cash surplus is measured by the free operating cash flow (FOCF). FOCF is an indicator of our company's capacity to finance itself and of its liquidity, and corresponds to the operating cash flow less the cash outflows for additions to property, plant, equipment and intangible assets. A positive FOCF serves in particular to pay dividends and interest and to repay debt.

These management metrics also come into play in the Group's bonus system, which applies uniformly to all staff – from the Board of Management to employees under collective bargaining agreements. The three growth factors, profitability and liquidity each account for one-third of the final assessment and bonus calculation formula. As a result, all employees whose personal efforts contribute to Covestro's overall positive performance can share in the company's success.

Sustainability

Sustainability is a core element of our mission and an integral part of our strategy. We are committed to a conscientious approach in terms of how we handle both our environment and our surroundings. We fuse our economic growth with sustainability – by offering profitable products and technologies that are beneficial to society and reduce environmental impacts to push the boundaries of what is possible. Our commitment to sustainability is anchored in our vision.

See section 5 "Company-wide Sustainability Management"

We are driven by ambitious sustainability goals that we intend to achieve by 2025: we aim to reduce our specific emissions, i.e. the CO_2 equivalent emissions per metric ton of product manufactured, by 50% by 2025 compared with 2005 benchmarks, convey our sustainability requirements to all of our suppliers, align our research with the UN Sustainable Development Goals, improve the lives of ten million people in underserved markets and get the most out of carbon.

Our five sustainability goals are aligned with the UN sustainability goals and have different positive impacts on the implementation of all 17 sustainability goals. In our corporate principles, we commit to finding ways of contributing toward reaching the UN sustainability goals.

We regularly review the sustainability topics of importance to Covestro as part of a materiality analysis. During this process, we also incorporate input from external stakeholders and update our nonfinancial goals as well as our activities and programs accordingly.

We have adopted the principles of the United Nations Global Compact. The principles of the charter we signed are mandatory for all our employees throughout the world. We are also committed to the industry-led Responsible Care initiative and are involved in global sustainability forums such as the World Business Council for Sustainable Development (WBCSD). Furthermore, we expect our suppliers to adhere to the same high standards of sustainability that we hold ourselves to. We have developed a Code of Conduct that all suppliers must observe, regardless of where they are headquartered or where they do business. The principles set out in this code serve as drivers of innovation for us and support the implementation of our strategy.

For more information, see section 5, sub-section "Stakeholder dialog" in the GRI Supplement

3. Innovation

Innovation is a core element of Covestro's strategy and is part of our identity. This is why our understanding of innovation is broadly defined: we do not rely on traditional research and development alone, but rather also on the great potential for creativity throughout the entire company. Promoting innovation at Covestro should be something that involves every individual employee.

In order to maintain and reinforce our position in the global arena, we work tirelessly at all levels to develop new products, improve established ones and optimize manufacturing and processing procedures. Application areas, business models and business processes are also subject to ongoing review. We draw on decades of experience and demonstrable success in these endeavors.

Innovation management

For more information, see section 3 in the GRI Supplement

By managing innovation systematically throughout the Group, we ensure that our ongoing activities and our project pipeline always satisfy the needs of our customers, user industries and consumer markets. The Innovation Excellence department uses a wide variety of tools to achieve this. For example, we use a standardized method to assess every research and development project and incorporate the resulting findings into ongoing and future projects. The global, digital platform idea.lounge is available for discussing and processing ideas from all parts of the company. A new electronic platform for the operational suggestion system for managing and tracking improvement suggestions has been in development since 2018.

At "Innovation Celebrations," we recognize employee projects from around the world that reflect our broad understanding of innovation. The awards serve to recognize innovative ideas for products and applications, production and production processes, business models and commercialization, internal business processes, as well as patents and intellectual property.

For more information, see section 2, subsection "Covestro and the UN Sustainable Development Goals" in the GRI Supplement

We seek to systematically align our research and development portfolio with the UN Sustainable Development Goals (SDGs) – in a manner consistent with our corporate vision. Our target for 2025 is to have 80% of project expenditures for research and development go toward areas that contribute to reaching these goals. The Group-wide evaluation process for existing and new innovation projects is currently being refined internally. One particular focus of our research activities is on the search for and development of solutions that help to address climate change.

In fiscal 2018, our research and development expenses amounted to €276 million after totaling €274 million in the previous year. As of December 31, 2018, Covestro had 1,123 employees[4] working in research and development worldwide (previous year: 1,072), most of them at major innovation centers in Leverkusen (Germany), Pittsburgh (United States), and Shanghai (China). Its global presence allows Covestro to respond to regional market trends and customer requirements.

Use of digital technologies

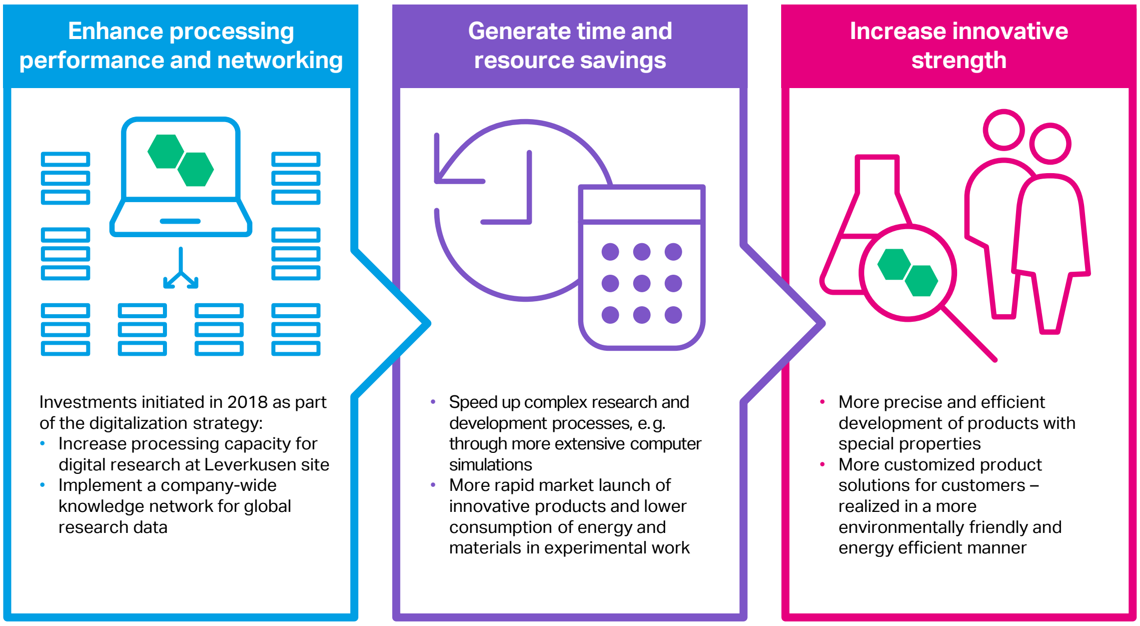
Covestro is committed to pursuing digitalization along with the associated new opportunities for the entire chemical and plastic value chain. Covestro utilizes the opportunities arising from digitalization with a comprehensive strategic program and particularly the intelligent use of data, thus setting new standards in cooperation with customers. To achieve this goal, we anchor digital technologies and work activities in production, along the supply chain, in research and development, and at all points of contact with customers as well as for developing new business models. The focus is on the specific benefit for our customers.

At the same time, all of our employees benefit from the opportunities of digitalization. Covestro recognizes digitalization as a comprehensive ongoing development that includes various priorities and advances at different speeds. The company has already used data analysis for a number of years primarily for production processes and continually invests in employees and infrastructure to systematically promote digitalization – and therefore improve the efficiency of work and production processes using modern data processing and the intelligent interconnection of systems. This also includes supply chain management and mobile work arrangements.

[4] Employees calculated as full-time equivalents (FTE)

In this connection, Covestro is ramping up the digitalization of research and development.

Expansion of digital research and development



Strategic partnerships

To remain innovative, Covestro not only closely cooperates with its customers around the world, it also collaborates with partners from academia and industry under the banner of open innovation, which is of great strategic importance for the company. Bilateral cooperations and collaboration in large, publicly funded consortiums characterize the partnerships with research facilities and universities as well as with companies along the value chain.

Covestro's "Inclusive business" teams focus on improving the living conditions of people in underserved markets around the world. Their work in this area involves developing affordable solutions based on our innovative and sustainable products and technologies. These efforts focus particularly on food security and sustainable and affordable construction, e.g. for housing, schools and training centers, including water supply and sanitary facilities.

Our activities are aligned with the UN Sustainable Development Goals. Our guiding principle is to effect a positive change in the lives of ten million people and to contribute to social improvements by 2025. We would like to work with other organizations sharing similar values as part of a collaborative approach aimed at developing innovative solutions and business models.

See section 5 "Company-wide Sustainability Management"

Covestro maintains long-standing and strategic partnerships with various universities. This includes cooperating with outstanding partners throughout the world, such as RWTH Aachen University, Tongji University in Shanghai (China) and Carnegie Mellon University in Pittsburgh (United States).

On the industrial side, we are working more intensively with young start-ups and established partners that support us in our intensive efforts to develop alternative, nonfossil resources and biobased processes. A prerequisite for making biobased raw materials usable is their direct contribution to optimizing resources compared to traditional processes.

Our innovation project aimed at manufacturing biobased aniline is one example of this. We are now able to manufacture the important basic chemical aniline on the pilot plant scale from biomass, rather than using the traditional method benzene, a raw material based on crude oil. This innovative procedure is the result of a cooperation between University of Stuttgart, the CAT Catalytic Center at RWTH Aachen University and Bayer AG. Covestro has thus succeeded in positioning itself as an innovative and sustainable company and as an ideal partner for future research and development projects.

In addition to making alternative biobased raw materials usable in order to improve resource efficiency and expanding the CO_2 technology platform to close the carbon cycles, electrochemical processes represent an area of activity for visionary, circular economy solutions aimed at the energy-efficient manufacturing of basic chemicals. In pursuit of this goal, Covestro collaborated with RWTH Aachen University and the Jülich Research Center to establish the industrial electrochemical competence center ELECTRA.

Alliance Management, a central unit at Covestro, provides support throughout the Group in planning and implementing cooperations and networks and for positioning the issues of innovation and sustainability at the state, federal and European policy levels.

Resource-efficient circular economy solutions

Many process and product innovations that we develop with and for our customers strengthen the circular economy by achieving greater resource efficiency by means of longevity and energy efficiency. Another goal of this is to responsibly reuse or recycle the materials utilized throughout the value chain. In doing so, we aim to uphold the quality and must ensure the safety of the products and avoid waste and emissions to the greatest extent technically possible.

Covestro works in cross-industry consortiums on methods aimed at making it possible to use CO_2 and waste flows of other industrial sectors as future raw materials for its products. In order to live up to the growing significance of circular business models and the need for more efficient use of resources, a central coordinating office with global responsibility for circular economy was established at Covestro. In addition, a venture management team was established in 2018 in the Polyurethanes segment to work with the coordinating office on reviewing potential cooperative projects along the entire value chain and assessing future business potential and technology options pertaining to the integration of waste-based raw materials.

In 2018, we also promoted the exchange of scientific findings and supported and helped organize the conference "Circular Economy" hosted at the Leverkusen site by the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh). Furthermore, the event serves as a signal of the close collaboration between the chemical industry and science for the purpose of promoting circular and sustainable solutions.

For more information, see section 3 in the GRI Supplement

Our products consist primarily of chemical compounds that are based on carbon. We want to use carbon as intelligently as possible. Increasing carbon productivity means creating more value using fewer carbon-based fossil resources. We work with a group of international organizations in the Carbon Productivity Consortium to develop a generally recognized method for assessing carbon productivity and to make it a tool for change. Meetings were held in 2018 with other leading businesses and organizations, e.g. during the Covestro-Tongji Sustainable Development Forum in Shanghai (China).

Innovation in the individual segments

Polyurethanes

In the Polyurethanes (PUR) segment, we are working continually on improving the technology, costs and sustainability associated with polyurethane manufacturing. Using digital work techniques, we aim to address customer needs even more specifically during the development process. The research focuses on insulating properties and lightweight application developments as well as on efforts to improve flame-retardant properties, reduce emissions and manufacture cost-effective, sustainable precursors.

Covestro plays a decisive role in the industrial development of temperature-independent viscoelastic foams. The strategic, global partnership with the Haier Group, the world's largest manufacturer of large electric household appliances, underscores our innovative strength in improving energy-saving microcell foams. Together with other industrial partners, we are working on new processing technologies that can be used to manufacture lightweight composite materials. These include the innovative process called pultrusion, which we are further developing in cooperation with KraussMaffei Technologies GmbH and profine GmbH.

In addition, Covestro is conducting systematic research in the PUR segment to determine how CO_2 can be used intelligently. In the search for alternatives to petrochemical resources, we have succeeded in using CO_2 as a raw material for the synthesis of polyols on an industrial scale. Covestro has developed a new type of polyol for use as a component in flexible polyurethane foam that is manufactured to contain as much as 20% CO_2. This polyol is produced on an industrial scale in a facility at the Dormagen site in Germany, making use of a CO_2 waste gas flow from an adjacent facility. Products launched on the market already under the brand name cardyon™ include mattresses from RECTICEL NV/SA and, the most recent example, a sports flooring from Polytex Sportbeläge Produktions GmbH.

Furthermore, Covestro is working to expand the technology platform for the future production of molecules and products using CO_2. In order to better close the raw materials cycle, we are collaborating with industrial partners to research how foams can be recycled in various application areas and which technologies are visionary from a holistic perspective. We joined a partner in 2018 to commission a European waste study that analyzed the polyurethane waste flows and that can be used as a reference for future recycling scenarios.

New digital products such as our digital service platform also offer innovative solutions for customers. This platform has a forecast tool to identify the best online polyurethane recipes and processing conditions for a specific production environment.

A digital chemical reactor has also demonstrated initial success. Covestro developed software for this product to precisely calculate the changes in temperature and molecular composition, in other words, the progression of the chemical reaction.

Polycarbonates

In the Polycarbonates segment, we are developing products including new polycarbonate-based material solutions and customized products tailored to meet increasingly complex customer requirements in the mobility, health and electronics/LED technologies areas. The key here is to lower the weight of the components and final products, improve their energy efficiency and safety, and realize completely new design possibilities.

The trend toward modern and integrated light elements – made possible by LED technology – is a theme that can be traced through all industries, but particularly in the field of mobility. Due to their transparency and thermal stability, polycarbonates are the ideal material for realizing innovative solutions.

In the automotive sector, the growing number of driving assistance systems, sensors and camera systems can be seamlessly integrated with our sensor-transparent materials of the Makrolon™ brand. We also support the new requirements for electric drive systems by developing new flame-retardant products, e.g. for ultra-light honeycomb crash absorption structures for protecting batteries, vehicles and passengers.

In 2018, we provided consistent support in the lighting market for the growing trend toward LED technology. Our newly developed products combine outstanding optical properties with exceptional longevity. In this way, Covestro supports the trend toward maintenance-free, efficient LED lighting.

Our innovations in the field of health applications are also worth noting. We designed a new clear-transparent material that meets the exacting requirements for manufacturing diagnostic ampoules, thus improving occupational safety for medical technology staff when conducting time-sensitive blood analyses. In addition, our newly developed carbon-fiber reinforced Makrolon™ allows us to manufacture disposable surgery implements more efficiently.

For the electronics industry, our new product portfolio meets customers' stringent standards concerning optical and high-gloss display properties. Due to the new materials, it is now possible to realize larger displays with three-dimensional design. We have also made consistent advancements in the field of high-performance materials. At the Markt Bibart site we commenced operations in the commercial production of our Continuous Fiber-Reinforced Thermoplastic (CFRTP) composites, thus combining the stiffness and strength of carbon-fiber or fiberglass with the flexibility and efficient processability of thermoplastics. This makes applications lighter, increasingly stable and even more aesthetic and creates entirely new design possibilities in key areas such as IT, mobility and consumer products.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment serves a number of specialized industries. Together with these customers and partners, we introduced significant innovations in 2018. A process and product innovation allowing even lower residual monomer content in our Desmodur™ and Bayhydur™ types had the biggest impact on our product portfolio in 2018. These are setting the new market standard in regard to work safety and industrial hygiene.

In 2018, we began launching a number of new products featuring biobased raw materials. Alternatives to petrochemical raw materials help to conserve resources and improve the carbon balance and are particularly successful wherever further product performance enhancement is required.

In addition to our standard products, our specialty areas are particularly strong drivers of innovation. The area of thermoplastic special elastomers is capitalizing on customized solutions for the electronics industry, such as cell phone cases. The Elastomers unit developed new polyurethane casting systems for the substitution of rubber products in mining. It also supplies suitable processing machinery and, in 2018, introduced a new generation of machinery that is intended to increase precision, productivity and efficiency for our customers. In the Specialty Films unit, significant investments were made in new capacities as a result of successful projects with the automotive, medical technology and security card industries.

We are pursuing new digital paths with regard to customer interaction. Based on the results of our research, we developed a digital tool to help customers make the right selection from our products and to provide the appropriate recipe for products. They can individually enter the desired properties themselves. In the area of processing machinery for elastomers, we introduced a digital interface to allow the maintenance of machinery while online, the management of innovative processing methods and the implementation of quality checks.

In the additive manufacturing (3D printing) area, we were able to implement critical, strategic steps using digital technologies. In the field of shoe technology, we worked with partners from the industry to establish new system solutions. As a result, efficient 3D printing processes replaced time-consuming work steps, and industry-standard materials were substituted by Covestro plastics.

4. Employees

The multifaceted abilities and personal efforts of all employees are the key to Covestro's success. Every employee has both the freedom and a mandate to act and contribute in line with our corporate values. Covestro thus promotes a working environment that is shaped by unconventional thinking, effective exchange of knowledge, creative problem-solving, constructive feedback and collegial cooperation. We aim to empower each of our employees to work to their full potential. Our managers are responsible for facilitating and supporting these objectives in close collaboration with our employees. In this way, we can work together to make an ongoing contribution to the company's success.

As of December 31, 2018, Covestro had 16,770 employees worldwide (previous year: 16,176). At the reporting date, the Group also had 541 employees in vocational training worldwide (previous year: 505), 516 of whom were based in Germany (previous year: 489).

See note 9, "Personnel Expenses and Employee Numbers" in the Notes to the Consolidated Financial Statements

Employees by Corporate Function[1]

	Dec. 31, 2017	Dec. 31, 2018
	in FTE	in FTE
Production	10,115	10,479
Marketing and distribution	3,476	3,601
Research and development	1,072	1,123
General administration	1,513	1,567
Total	**16,176**	**16,770**
Employees in vocational training	505	541

[1] 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.

For more information, see section 4, sub-section "Employee metrics" in the GRI Supplement

Human resources profile and focus

The focus of human resources is on promoting employees' individual skills and advancing their expertise, thus enabling them to optimally contribute to interdisciplinary collaboration. Our cultural awareness and our corporate values set standards for performance-related behavior and the respectful interaction with each other. Covestro makes it possible for employees to be directly involved in change processes and contribute their own feedback in order to continually improve the work processes and conditions. We place the highest priority on health and safety in the workplace. The constant monitoring and improvement of occupational safety, along with the range of programs and initiatives aimed at promoting health, provide vital conditions for successful collaboration. In addition, we place a particular focus on further reinforcing diversity and inclusion.

For more information, see section 8, sub-section "Occupational health and safety" in the GRI Supplement

In terms of its structure and its content, the HR organization is positioned in line with the previously mentioned goals, and together with the new personnel management system launched this year, it reflects the necessary processes on a global level.

Hiring and retaining highly qualified employees

It is a strategic challenge for Covestro to be regarded as an attractive employer worldwide. We aim to retain qualified employees for the long term, ensure their professional and personal development and hire new talent.

When recruiting new employees, the Employer Branding and Recruiting departments rely increasingly on digital channels. The company reaches out to different target groups through social media and digital platforms such as LinkedIn and Glassdoor to introduce Covestro as an employer. Career sites were launched in 22 countries in 2018 to allow different target groups to be contacted at regional and national levels. These sites showcase Covestro as a company but also as an attractive employer in the respective region. We also rolled out an application management system globally in all of the countries, providing interested candidates the opportunity to view our current job postings around the world and to apply directly online. In this way, we focus our recruiting activities on the applicant.

We engage in numerous activities to maintain our overall attractiveness and significance as an employer brand. In all countries in which we are present, we actively conduct HR marketing to attract employees, thereby relying on direct interactions. To achieve this, we maintain close contacts with leading universities, are involved in international networks of students and take part in career fairs. Furthermore, we hold career events, workshops and tours at various Covestro sites. For instance, Covestro is involved in UNITECH International, a network of prospective engineers from nine universities and 22 companies.

In addition to the vocational training options we offer in Germany, we bring in high-school and college students to take part in numerous attractive professional internships worldwide each year. This gives them insight into our company's operations as well as personal experience with Covestro as an employer. In addition, Covestro offers interesting trainee programs for university graduates. For job activity profiles, we actively approach candidates and introduce the entry level options.

We also hold global competitions, award ceremonies and other events to encourage special achievements and outstanding commitment. For example, Covestro was a partner company in the Carbon Footprint Challenge 2018, which recognized ideas for reducing the carbon footprint in the industrial sector. This competition was hugely successful. Teams of students from 81 countries submitted over 150 different suggestions featuring ideas for ways to optimize the carbon footprint of processes and products in the future.

Promoting and developing employees and their development

Well educated and trained staff is crucial for ensuring that the company can further develop and is essential to the company's success. We believe in the concept of lifelong learning. We support our employees in continuing their professional and personal education throughout all phases of their careers.

To this end, we offer a wide range of customized continuing education options for all employees through our in-house learning concept entitled Coversity (a term that combines Covestro and university). Coversity holds numerous in-person classes and virtual training sessions worldwide at its Functional Campus, Project Campus, Leadership Campus and Virtual Campus, each of which focuses on a different target group. In support of the corporate strategy, the following focal points were highlighted in 2018: digital transformation and expansion of e-learning offerings, engineering and project management programs and agile work methods.

In the area of personnel development, Covestro uses a model with clearly defined core and leadership skills that serves as a reference for all employees. This is intended to ensure that managers and employees use the same vocabulary and uniform criteria when assessing performance. This model is used to conduct sound career planning, performance assessment and potential assessment for employees. The requirement profile for top management at Covestro was also revised this year, particularly to specify the focal points of the leadership behavior expected in the future. We have also transferred our performance assessment approach to an ongoing dialog between staff and supervisors held during the year, thus ensuring the timely adjustment of goals and priorities. In addition, performance meetings are held between staff and supervisors in which individual strengths and improvement opportunities as well as professional development perspectives within the Group are discussed. Managers and employees alike can take the initiative at any time and run a development meeting on an ad hoc basis. The contents of these discussions are integrated into the ongoing human resources planning conferences to optimally develop employees in their own best interests and those of the company. Maintaining a constant dialog between the employees and management is a key concern. To this end, employees can use an application in the human resources system to provide or actively request feedback across hierarchical levels, a feature intended to further reinforce the feedback culture within the company.

Compensating employees transparently and competitively

Offering fair compensation in line with the market is an essential prerequisite for recruiting, retaining and motivating qualified employees. Covestro therefore combines a base salary reflecting the duties of a position with performance-related compensation components and extensive additional benefits to create an internationally competitive pay package, about which employees are informed transparently.

Tasks and responsibilities are classified on the basis of a job evaluation conducted without considering the individuals in the positions. In the area of managerial functions, an internationally recognized evaluation method is used if the job evaluation has not already been stipulated by a local collective agreement. Based on this classification, the amount of the base salary in all countries is aligned with regional market conditions. Regular compensation benchmarking is conducted to ensure this orientation is maintained for the long term.

See notes 21, "Other Provisions" in the Notes to the Consolidated Financial Statements

Through the Group-wide bonus program Covestro Profit Sharing Plan (Covestro PSP) that has been in place since 2016, we have made it possible for our employees to participate in the success of the company each year with a uniformly calculated bonus payment. In addition, employees in managerial functions participate in the global compensation program Prisma, which bases payments on the Covestro share price, including in comparison to that of our competitors, and in this way rewards the long-term changes in the company's share price. Furthermore, a global budget is available from which supervisors can promptly grant Individual Performance Awards to recognize outstanding conduct, commitment and performance of all employees with a view to our values.

As in previous years, the stock participation program Covestment was once again offered in 2018 and provides employees with the opportunity to purchase Covestro stock at a discount. Over 50% of all eligible employees in Germany took advantage of this offer. This program was introduced in the United States in 2017. In the year under review, more than 40% of all eligible employees there made use of it. In 2018, Covestment was expanded to Hong Kong (China) in addition to Belgium, Italy, Mexico, Netherlands, Spain, Taiwan and Thailand. Approximately 75% of Covestro's global workforce is thus able to purchase Covestro stock at discounted prices.

Promoting diversity and inclusion

Covestro provides a working environment in which a wide variety of skills, talents, experiences and beliefs are welcomed and treated with respect. We promote unconventional thinking, creative ideas, and open-mindedness. Covestro is advancing the topic of "Diversity and Inclusion" as an important part of its corporate culture. Targets and a greater understanding for diversity and inclusion are being further solidified in global action plans and regional implementation teams. We are confident that a diverse workforce will lead to outstanding innovation and employee commitment. The inclusion of different perspectives results in more balanced decisions and thus contributes significantly to Covestro's success.

Creating the best working conditions and work models

The health, safety and professional and personal dedication of our employees are extremely important to us. Continuous monitoring of and improvements to occupational safety, combined with the range of programs and initiatives aimed at promoting health, serve as the fundamental principles for creating working conditions. Human resources management is supported in this task by the areas of Health, Safety, Environment and Quality (HSEQ) together with Law, Intellectual Property and Compliance (LIPC) and Corporate Audit. They assist Covestro in ensuring that all internal and relevant requirements of compliance and labor laws are met.

We also offer our employees modern working conditions so they can always be successful in a changing working environment and balance their professional interests with personal interests such as family life. In many countries, we exceed our legal obligations, e.g. by offering solutions such as flexible working hours, part-time working and working from home if this is compatible with operational requirements. A direct dialog with our employees is also particularly important to us. In this regard, we take into account national and international notification duties.

Our social responsibility as a company and an employer is based on our corporate values and our unreserved commitment to supporting and fostering human rights in our sphere of influence. At Covestro, social responsibility also includes creating working conditions that are based on mutual respect and appreciation among employees and, in particular ensure safety at the workplace. Our sustainable personnel policy also features a strong social safety net for our employees.

In addition, Covestro actively encourages awareness of healthy lifestyles. This is particularly true in regard to the challenges facing us as a result of demographic change and the raising of the retirement age in many countries.

We offer comprehensive workplace health management that is continuously expanded in response to employee surveys. The intention is to ensure that all employees have access to adequate and affordable health offerings such as sports programs, regular medical check-ups, help in overcoming illness and on-site medical care. The nature and scope of the health promotion programs differ around the world with regard to the respective country-specific level of development and access to national health systems. We offer our employees comprehensive measures aimed at preventing illness, in many cases exceeding statutory requirements.

New, flexible working environments for greater contact and communication

The work environment, contents and working methods are undergoing constant changes due to the digital transformation and the increasing level of momentum and complexity at our workplace. In order to meet these ever-changing requirements, Covestro provides a modern working environment. This applies particularly to cases such as moving into or creating new workspaces. Special emphasis is placed on a working environment that promotes learning and development while supporting agility and the exchange of knowledge. To achieve this, we provide not only the appropriate facilities, but also the IT infrastructure and media technology that works simply and intuitively.

We call this way of working our C^3 methodology. It is intended to allow a change of perspective, creativity and effective collaboration to bring together all employees across team, department and national borders.

Our managers play a special role in this system. In addition to the established leadership standards and work methods, they are increasingly called upon to work together with their employees in the development of flexible and customized solutions for the purpose of leading Covestro into the new working environment at all levels, thus ensuring ongoing success.

Conducting business responsibly

5. Company-wide Sustainability Management

Covestro aims to help protect the environment, conserve limited resources, advance society and create value, all by firmly integrating sustainability into the corporate strategy and management.

Moreover, Covestro underlines the significance of the topic of sustainability and its identity as a sustainably operating company through its membership in key sustainability initiatives and its voluntary commitment to apply the guidelines and principles of those initiatives. Upon gaining economic and legal autonomy in September 2015, Covestro immediately signed up to the UN Global Compact and adopted its ten internationally recognized principles.

Strategic alignment

We would like to inspire innovation and drive growth – with profitable products and technologies that benefit society and reduce the impact on the environment. Similarly, we aim to serve our customers, society and the environment alike through our sustainability commitment, in accordance with our corporate vision of making the world a brighter place. Our Group-wide sustainability program approved in 2016 reflects these aspirations which are defined in ambitious nonfinancial targets to be achieved by 2025:

- Our project portfolio for research and development is aligned with the UN Sustainable Development Goals. By 2025, 80% of project expenditures for research and development will go toward areas that contribute to reaching these goals.
- 100% of our suppliers to comply with our sustainability requirements
- Reduce specific greenhouse gas emissions by 50% from the 2005 baseline figures
- Ten million people in underserved markets to benefit from our business solutions
- Get the maximum benefit out of carbon. Increasing carbon productivity enables us to create more value with fewer carbon-based fossil resources. We work in a group of international organizations on projects suchas developing a generally recognized method to evaluate carbon productivity and making it a tool for change.

Targets are also agreed for the health, safety, environment and quality (HSEQ) topics and regularly reviewed using defined performance indicators. For instance, we defined another sustainability target pertaining to energy efficiency: we will halve the 2005 level of energy consumption per metric ton of product produced by 2030. Using the results achieved, existing action plans and measures are dynamically adapted to enable further improvements.

Covestro strongly endorses the comprehensive and global approach of the UN Sustainable Development Goals. As the world's leading supplier of high-tech polymer materials, we aim to make a significant contribution to mastering the greatest challenges of our time and finding suitable solutions.

Operational management

Our principles are anchored in internal Group policies. They provide concrete specifications on the important issues of value creation, sustainability, innovation, people, HSEQ and compliance. The six Group policies describe Covestro's goal of developing solutions that create added value for all stakeholders, promote sustainable development, drive innovation, motivate employees to implement our corporate vision, and create attractive jobs for talented employees. Moreover, we strive to continually improve our occupational safety and health, environmental performance, energy efficiency and quality activities while strictly adhering to all legal requirements as well as our more extensive voluntary commitments.

For more information, see section 2, subsection "Company policies and voluntary commitments" in the GRI Supplement

See section 24 "Compliance"

Binding, Group-wide directives that support meeting HSEQ targets are accessible to all employees in an internal Group database. Compliance with these directives is verified during annual internal audits. In addition, issues and action plans as well as target achievement are monitored in a management review. Global and local operating procedures for the relevant processes implement the Group policies and directives at the operational level. Binding ethical and legal principles are anchored in our Corporate Compliance Policy (Directive). This policy includes important guidelines on fair and respectful working conditions and on fighting corruption. Covestro has implemented a reporting process so that employees can report potential compliance violations anonymously. The contents of the Corporate Compliance Policy are conveyed regularly through targeted communication measures and employee training sessions.

In addition to the intra-Group issues described above, social and societal matters are also of great significance to Covestro. We address our responsibility to society comprehensively through corporate citizenship, ongoing constructive dialog with authorities, neighbors and stakeholders and organizations interested in Covestro. To this end, we maintain constant contact with authorities, operate neighborhood offices and conduct regular plant tours. Donations, support programs and specific partnerships are further expressions of Covestro's active commitment to society.

The high standards of sustainability that we hold ourselves to also apply to our suppliers. We have developed a Code of Conduct that all suppliers must observe. This applies regardless of where they are headquartered, where they do business, or the scope or size of their respective services. Covestro[5] is also a founding member of Together for Sustainability (TfS). The goal of this initiative is to standardize supplier assessments and audits worldwide while applying international standards.

Sustainability management and the integrated HSEQ management system are an integral part of all functions and positions in the Group. The Sustainability Community and the HSEQ Community are the central coordinating bodies and comprise members of the Board of Management and managers from the central sustainability and HSEQ functions. All segments and the regions in which Covestro operates (EMLA, NAFTA and APAC) are represented. They coordinate the relevant strategies and goals as well as update them on an ongoing basis. Committees are responsible for developing and setting goals and action plans. These in turn work closely with employees in key positions in the departments and business units which coordinate and monitor implementation.

[5] Part of the Bayer Group when TfS was founded

Materiality matrix

The materiality analysis was updated in 2018. The following materiality matrix illustrates the result of the analysis.

For more information, see section 5, sub-section "Material sustainability issues" in the GRI Supplement

Materiality Matrix 2018

Stakeholder relevance (external view)	Medium	High	Very high
Very high		• Resource-efficient circular economy[1]	• Innovative solutions that contribute to the UN Sustainable Development Goals • Innovative solutions for addressing climate change (mitigation and adaption) • Product stewardship
High		• Business ethics, human rights and transparency • Sustainability in the supply chain	• Occupational health and safety • Environmentally efficient operations
Medium	• Biobased plastics/resources[2] • Social engagement • Inclusive business • Political and social acceptance	• Employer attractiveness	
	Relevance for Covestro (internal view)		

[1] Innovative products, business models, and process developments making circular material flows resource-efficient and economically viable, incl. biobased approaches
[2] Biobased alternatives to products produced from fossil resources without taking into consideration the associated changes in resource efficiency

As part of the assessment of material topics, expectations and requirements of our key stakeholders were once again reviewed this year and considered accordingly in our sustainability program. Our external stakeholders evaluate the company not only in terms of financial and legal aspects but also with regard to behavior in line with sustainable and ethical principles. The stakeholders are our business partners, with whom we work closely on a daily basis; financial market participants, who judge our performance; regulators, with whom we discuss changes in our company and in the legal framework within which we operate; and societal stakeholders, whose acceptance and interest in the company is necessary for us. The materiality matrix visualizes the sustainability topics of key importance to Covestro and external stakeholders.

For more information, see section 5, sub-section "Stakeholder dialog" in the GRI Supplement

This year, some sustainability issues and their definitions were refined, e.g. by summarizing topics or separating out particular aspects. During this process, the topic of key importance "Innovative solutions for addressing climate change" was updated to include content from the topic "Adapting to climate change," and the title was changed accordingly. The titles of the key topics "Inclusive business" (previously: "Partnering for scalable solutions"), "Business ethics, human rights and transparency" (previously: "Business ethics and transparency"), "Sustainability in the supply chain" (previously: "Sustainable procurement"), and "Occupational health and safety" (previously: "Occupational health and safety in operations") were defined more precisely to better align them with the individual sub-topics they encompass. The topics "Biobased plastics/resources" and "Political and social acceptance" were added based on the results of external interviews and the in-house consultation with experts. Compared to the previous year, "Inclusive business" was classified as being somewhat less relevant. Going forward, the topics with high or very high relevance for Covestro and the stakeholders overall will become more important and will be more heavily integrated into our strategic and commercial business focus. These sustainability topics are also the basis for selecting the main aspects and indicators as required for the GRI core reporting.

Sustainability reporting

Our reporting is in accordance with recognized sustainability reporting standards. We report on fundamental topics and nonfinancial performance indicators pursuant to Section 315 (3) of the German Commercial Code (HGB) in our Group Management Report and supplement this information with additional content, which is additionally required in accordance with the GRI standards. Furthermore, as a member of the UN Global Compact, we submitted a corresponding progress report in May 2018.

For more information, see section 1 in the GRI Supplement

Nonfinancial Group statement

We publish the nonfinancial Group statement pursuant to Sections 315b and 315c in conjunction with Sections 289c through 289e HGB as an integrated part of the Group Management Report. The respective sections include the strategies we pursue in addressing environmental, labor and social issues as well as protecting human rights and fighting corruption and bribery, including the due diligence processes followed and measures implemented, as well as the outcomes of these strategies.

We applied the Global Reporting Initiative (GRI) standards as a framework for preparing the nonfinancial Group statement.

Topics relevant to the nonfinancial Group statement are identified on the basis of the results of the materiality matrix in an internal process and in consideration of their significance and implementation within the company. The following table provides an overview of the key sustainability topics with an eye to the relevant aspects and contains references to the specific sections in the Group Management Report.

In order to identify and address current developments and sustainability-related opportunities and risks at an early stage, we also review whether there are any new findings relevant to opportunity and risk management.

As an integral part of the Group Management Report, the Group's nonfinancial statement was audited with reasonable assurance by the auditor, KPMG AG Wirtschaftsprüfungsgesellschaft. The results provided by the external providers EcoVadis SAS and Together for Sustainability AISBL (TfS) were not subject to this audit.

Key Sustainability Topics of the Group's Nonfinancial Statement (HGB)

Key topics of the Group's nonfinancial statement (HGB)	Relevant aspects in accordance with the Group's nonfinancial statement (HGB)	Section reference in the Group Management Report
Innovative solutions that contribute to the UN Sustainable Development Goals	Environmental matters, social matters	"Innovation" section 3, "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" section 7
Environmentally efficient operations	Environmental matters	"Environmental Protection" section 9, "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" section 7
Occupational health and safety	Employee matters	"Safety" section 8, "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" section 7
Employer attractiveness	Employee matters	"Employees" section 4
Product stewardship	Social matters	"Product Stewardship" section 10
Social engagement	Social matters	"Company-wide Sustainability Management" section 5
Inclusive business	Social matters	"Innovation" section 3
Sustainability in the supply chain	Respect for human rights	"Sustainability in Supplier Management" section 6, "Compliance" section 24
Business ethics, human rights and transparency	Fighting corruption and bribery, Respect for human rights	"Employees" section 4, "Sustainability in Supplier Management" section 6, "Opportunities and Risks Report" section 21, "Compliance" section 24

Stakeholder dialog

For more information, see section 5, sub-section "Stakeholder dialog" in the GRI Supplement

We work closely with our stakeholders in a collaborative manner. After all, they evaluate the company not only in terms of legal aspects, but also with regard to our adherence to sustainable and ethical principles. To identify crucial sustainability issues, we continually analyze the interests, expectations and requirements of our key stakeholders (materiality analysis) and incorporate them into our target program.

Covestro's Key Stakeholders

Partners	Financial market participants	Regulators	Social interest groups
Customers	Investors and creditors	Authorities	Media and the public
Suppliers	Rating agencies	Legislators	Neighboring communities
Employees	Analysts	Politicians and opinion leaders	Nongovernmental organizations
Associations			
Scientific community			

As a company, Covestro is part of society and public life. Continuous dialog with our stakeholders is therefore particularly important to us.

An open exchange is the foundation for mutual understanding and social acceptance of our entrepreneurial decisions. At the same time, these conversations provide us with new inspiration and crucial input. We therefore engage in an ongoing dialog with our stakeholders.

We maintain a regular exchange with authorities, ministries, politicians and important opinion leaders regarding regulatory matters at the local, regional, national and international levels because, in essence, these groups design the framework conditions within which our company operates. The dialog takes place by way of contributions to public consultations, involvement in specialized workshops, association activities and targeted meetings with political opinion leaders. Covestro has defined clear and binding rules for involvement in the political sphere in its code of conduct for responsible lobbying.

At our sites around the world, we pay close attention to the impact our activities have on the directly neighboring communities and on society in general and take this into account in making operational and strategic decisions. This includes an active, open and constructive dialog allowing Covestro to be recognized as a reliable and trustworthy partner that takes its social responsibility seriously.

The dialog with neighbors, the public and nongovernmental organizations (NGOs) is initiated on an ad hoc basis. In doing so, we adhere to national and local guidelines, often even exceeding them. In the case of investment projects, the neighboring community is actively informed and involved. In the United States, for instance, the dialog takes place through community advisory panels (CAPs). These panels meet regularly with local governments and/or neighborhood representatives to learn about current issues. In Germany, the Chempark neighborhood offices are used to communicate with neighbors. We engage in an active dialog with social interest groups particularly when new facilities are planned, built and commissioned.

Dialog with our partners is very important to us. You will find additional information on our ongoing dialog with customers, suppliers, employees, industry associations and scientific institutions in sections "1. Group Structure and Business Model," "3. Innovation," "4. Employees" and "6. Sustainability in Supplier Management."

We also conduct intensive dialog with capital markets. You can also read more about this topic in section 22 "Declaration on Corporate Governance" in the Group Management Report.

Social engagement

As a global enterprise, we are aware of our social responsibility. We demonstrate responsibility for our decisions and our actions, for our products and services, toward our customers and investors, and toward the environment and the society in which we live. We are committed to compliance with all applicable tax laws. Furthermore, we feel committed to the principle that, in each case, our tax payments in all of the countries where we operate are in line with the value we create there. We also want to increase access to education, technology and a better life. In doing so, we are using our social engagement as a catalyst to rapidly reach the UN Sustainable Development Goals, which aspire to create a world characterized by greater justice, resilience and well-being for humans and the planet by 2030. As one of the world's largest polymer companies, Covestro would like to use its position to work with different organizations in numerous regions in the world to advance projects for protecting the environment, improving the welfare of society and stimulating the economy. To achieve this, a central unit in the company supports Group-wide efforts to plan and implement cooperative efforts with partners and award donations in order to work toward reaching the UN sustainability goals. Donations are allocated on the basis of an annual financial planning that is approved by the Board of Management and implemented in accordance with a Group directive.

6. Sustainability in Supplier Management

For more information, see section 6 in the GRI Supplement

Covestro regards adherence to sustainability standards within the supply chain as a crucial factor in value creation and also an important lever for minimizing risks. For this reason, Covestro sets not only economic standards but also social, ethical and ecological standards, as well as those related to corporate responsibility when selecting new suppliers and in our relationships with existing suppliers. These standards are defined in Covestro's Supplier Code of Conduct, which is available online in 13 languages and provides the basis for collaboration. The Code is derived from the principles of the UN Global Compact and our position on human rights. It is integrated across the Covestro Group into the electronic ordering systems and contracts. Furthermore, relevant new and renewed supply agreements generally contain special clauses requesting suppliers to observe the sustainability requirements contained in the Code of Conduct and entitling Covestro to monitor their compliance.

Covestro has set ambitious and measurable targets through 2025 aimed at systematically promoting sustainability in supplier management. All suppliers must agree to comply with our Code of Conduct by accepting our contracts and orders. Suppliers accounting for a repeat purchasing value exceeding €100,000 per year are also assessed and must comply with Covestro's sustainability standards by means of meeting the minimum requirements as defined by us in the supplier assessments described below. In the year under review, around 95% of our total purchasing value was attributable to these suppliers. We work closely with our strategically most important suppliers to improve their sustainability performance. We have also incorporated this into our sustainability goals.

Evaluation methods and processes of the TfS initiative

Covestro is a member of Together for Sustainability AISBL (TfS), a joint initiative undertaken by the chemical industry that now numbers 22 companies. The nonprofit organization founded in 2011 pursues the goal of establishing a program of global standards for responsibly sourcing goods and services and standardizing supplier evaluation methods worldwide. Covestro supports all TfS criteria concerning the areas of ethics, employee rights, human rights, health and safety, and the environment.

As a member of TfS, Covestro is responsible for monitoring and auditing the sustainability performance of its suppliers. To support this, TfS offers the infrastructure for supplier assessments by third parties using online assessments and on-site audits. The TfS infrastructure enables the results of these assessments to be distributed via an online platform. In the year under review, Covestro played an active role in all TfS work groups in designing and improving the TfS program and the associated evaluation process.

Covestro uses the standardized TfS assessment process to audit how well its suppliers maintain the sustainability standards required by Covestro. Covestro uses a structured prioritization process to select the suppliers to be audited and initiates either an online assessment or an on-site audit for the selected suppliers – provided that there are no current results. In prioritizing the suppliers for these assessments, Covestro considers a combination of country and material risks as well as strategic importance in accordance with Group targets. The risk assessment for country and material groups that we use for our risk analysis is based on recognized external sources.

EcoVadis SAS (EcoVadis), an established external provider accredited by TfS, conducts the online assessments. The goal is to assess the suppliers' business practices in regard to their sustainable orientation (Corporate Social Responsibility, or CSR). The questionnaire suppliers complete for the online assessment is based on internationally recognized sustainability standards and includes 21 sustainability criteria grouped into the categories environmental protection, working conditions and human rights, fair business practices and sustainable procurement. The questionnaire's section on sustainable procurement also inquires as to the extent to which the sustainability standards of upstream suppliers are considered.

This questionnaire is dynamically adapted by EcoVadis depending on factors such as the industrial sector, company size and country risk. Suppliers must document the responses provided to the questionnaire by submitting corresponding supporting documents. The CSR analysts at EcoVadis assess supplier responses and supporting documents in consideration of international standards, such as the United Nations Global Compact, and consolidate the data into a scorecard available online that shows results by category. This scorecard provides an overview of identified strengths and improvement areas for the suppliers analyzed, among other details.

External, independent auditors trained and accredited by TfS conduct on-site audits of selected companies – and follow-up audits, if needed – based on the TfS sustainability criteria. For the purpose of monitoring the quality of the audits, the initiating TfS member periodically takes part in audits selected on a random basis and evaluates them using a standardized checklist.

Covestro analyzes and documents the online assessments and on-site audits of our suppliers, and – in the event of noncompliance with our sustainability requirements – jointly defines with suppliers specific improvement measures and corresponding targets. Covestro continuously verifies the implementation of the required improvements.

The following table shows the status of the supplier assessments.

Key Data from the Sustainability Assessments of our Suppliers

	2017	2018
Share of relevant purchasing value from suppliers meeting Covestro's sustainability criteria[1,2]	**71%**	**80%**
Supplier assessments conducted in the reporting year[2]	**719**	**736**
of which through online assessments	690	712
of which through on-site audits	29	24
Total supplier assessments conducted[2]	**1,349**	**1,584**
of which through online assessments	1,215	1,400
of which through on-site audits	134	184
Supplier assessments meeting Covestro's sustainability requirements	870	1,074

[1] Only suppliers accounting for a repeat purchasing value exceeding €100,000 per year are taken into account.
[2] Online assessments (conducted by external, independent, TfS-accredited provider EcoVadis) and on-site audits (conducted by external, independent TfS-accredited auditors) of Covestro's suppliers, both initiated by Covestro and shared within the TfS initiative, are taken into account. Only assessments of our active suppliers that are no more than three years old are taken into account.

Results of online assessments and on-site audits

At the end of 2018, 80% (previous year: 71%) of our relevant purchasing value was attributable to suppliers whose externally conducted assessments meet our sustainability requirements. Covestro thus exceeded its own intermediate goal of 75%. Furthermore, 75% of our strategically most important suppliers who conducted a repeat assessment in 2018 have improved their results.

In 2018, assessment results considered critical by Covestro were identified for eleven suppliers; in other words, they failed to meet the required minimum result by a significant margin. This corresponds to 1% of all suppliers assessed (previous year: 2%). Covestro responds to such infractions with specific action plans and demands that the suppliers in question implement appropriate corrective measures; follow-up audits are conducted to verify compliance.

As in the previous year, Covestro had no cause to terminate a supplier relationship in the reporting year because the assessment revealed an unsatisfactory performance, or a serious sustainability deficit, e.g. human rights violations like child labor or forced labor.

Training measures and dialog on the issue of sustainability

Covestro maintains an ongoing dialog with its suppliers and supports its procurement specialists in implementing the sustainability requirements by providing Group-wide training. Last year, workshops were held worldwide with our strategic procurement specialists aimed at strengthening cooperation with suppliers in regard to the four strategic principles in Procurement: reliability, sustainability, cost transformation and innovation. Further progress was made on implementing the four strategic principles in 2018. Regional Program Managers were posted in each of the EMLA, NAFTA and APAC regions to promote the establishment and optimization of our sustainability program during the reporting year.

Dialog and close collaboration are essential in enabling suppliers to successfully comply with Covestro's sustainability requirements. We therefore offer a range of training and dialog opportunities for them as the basis for building reliable relationships that enable us to identify and eliminate any obstacles to collaboration at an early stage.

7. Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality

For more information, see section 2, subsection "Company policies and voluntary commitments" in the GRI Supplement

Covestro's stated aims are to take preventive measures to protect employees, suppliers and service providers, ensure uninterrupted operations and continually improve quality. The integrated management system implemented throughout the Group pertains to the topics of health, safety, environment and quality (HSEQ). The head of the integrated HSEQ management system is commissioned by the Board of Management. The integrated management system ensures implementation of the specifications of the HSEQ Group guidelines based on internationally recognized standards governing occupational safety (OHSAS 18001), the environment (ISO 14001), energy (ISO 50001) and quality (ISO 9001). Adherence to processes and workflows is regularly verified through internal audits, annual self-assessments and external certifications. The insights we gain from these measures are incorporated into our annual management assessment. Every process is thus subject to ongoing monitoring and is updated as required. Our existing HSEQ management system corresponds to the requirements of the current ISO 9001:2015 and ISO 14001:2015 standards and was also successfully certified in 2018 based on the new ISO standards. Specific targets in line with the aforementioned ISO standards have been defined.

The integrated management system comprises the following subsections:

Occupational health and safety

In the area of occupational health and safety, globally applicable processes include detailed rules governing the safety of production facilities and manufacturing processes, the investigation of accidents and environmental and transportation incidents, health screening and occupational safety, and emergency management at Covestro. The rules stipulated by international standards such as OHSAS 18001 comprise the minimum requirements applicable worldwide and are supplemented with additional regulations as needed. This is intended to prevent accidents and incidents during day-to-day business as well as during transportation that could affect people or the environment. We also offer support to our customers, for example by providing training on the safe handling of our products in and outside of our facilities.

Environment and energy

In the areas of environment and energy, global minimum standards were specified in the form of rules and regulations similar to internationally recognized standards and rules such as ISO 14001 (environmental management) and ISO 50001 (energy management) to ensure that we satisfy our ambitious expectations of resource efficiency and emission reductions. Each year we analyze and evaluate the effects of our activities on the environment. From our environmental performance assessment, we derive measures to reduce and minimize environmental impacts. Global process and workflow descriptions help us implement these throughout the Group. In the year under review, the energy efficiency system we introduced in 2008 was recertified to ISO 50001 for the seventh time at the main German production sites.

Quality

We have very high expectations when it comes to the quality of the raw materials we use, and set standards for their processing into high-tech plastics and polyurethane precursors. Within the framework of our integrated HSEQ management system, our quality management meets the requirements of the current, newly revised standard ISO 9001:2015. In doing so, we are creating the underlying conditions for addressing the customers' needs to a large degree with regard to our products and services.

8. Safety

The continuous improvement of a safe work environment is both a high priority and a key component of Covestro's corporate responsibility and corporate culture. Our primary goals include preventing injuries, disruptions at plants and accidents during transportation, as well as safeguarding the health of all employees in the workplace and during work-related activities. This also applies to third-party employees (contractors) who work for our company within the scope of operational activities. Detailed rules and regular checks are instrumental in meeting these goals, as are safe production processes, plants and transportation. There is an equal focus on protecting the environment and the well-being of everyone who comes into contact with our products. In addition, we developed and launched the SafeGuard program, which allows us to address all aspects of safety of importance to Covestro in a comprehensive and global manner. Please continue reading for details on SafeGuard.

For more information, see section 8 in the GRI Supplement

Occupational health and safety

A harmonized reporting system implemented throughout the Group exists for reporting and processing work accidents and potential hazards. The classification complies with U.S. OSHA standard 1904 "Recording and Reporting Occupational Injuries and Illness". After an accident is reported to the plant or site officer, the data is then consolidated in the Integrated Information Management System (IIMS), a software application developed by Covestro. IIMS makes it possible to identify both positive and negative developments and trends in the area of safety in real time so that corresponding short-term corrective and long-term improvement measures can be implemented if necessary. Covestro's safety experts, supported by external expertise if needed, analyze the background circumstances and the consequences of an incident. The results of the cause analysis conducted after an incident occurs and the corrective measures taken are published throughout the Group in order to raise employees' safety awareness; as a result, everybody can better assess comparable hazards and situations as well as proactively remedy them.

Covestro processes workplace accidents involving the company's own staff and contractors as part of the recordable incident rate (RIR) and lost time recordable incident rate (LTRIR), as per OSHA 1904. This statistic measures the number of accidents per hours worked (standard of 200,000 hours per year). It takes into account all work accidents with injuries requiring medical treatment beyond first-aid measures.

Work-related Accidents

	2017	2018
Lost time recordable incident rate (LTRIR[1, 2])		
in relation to Covestro employees[3]	0.25	0.20
in relation to contractor employees[4]	0.23	0.10
Recordable incident rate (RIR[5])		
in relation to Covestro employees[3]	0.35	0.38
in relation to contractor employees[4]	0.43	0.24
Fatal injuries (total)	0	0
of which Covestro employees	0	0
of which contractor employees	0	0

1 LTRIR (Lost time recordable incident rate): Number of workplace accidents resulting in at least one day of lost time per 200,000 working hours annually
2 The LTRIR for contractor employees in the previous year was amended due to the subsequent change of a recordable workplace accident in 2017 to a workplace accident resulting in at least one day of lost time.
3 The number of hours worked was calculated by multiplying the average number of employees for the year by average values determined using OECD statistics and other figures. The number of underlying working hours was retroactively adjusted for fiscal 2017.
4 Employees of external companies contracted by Covestro whose accidents occurred on our company premises. Due to more stringent requirements for the validation of hours worked, the data for hours worked by external company employees on Covestro premises in 2018 refer exclusively to sites whose time reports already satisfy these requirements. The key data reported for contractor employees in 2018 are maximum values that are only comparable to the 2017 values to a limited extent.
5 RIR (Recordable incident rate): Number of workplace accidents per 200,000 working hours annually

We continuously work to keep the accident figures as low as possible in the future as well. In recent years, for example, we have developed a comprehensive concept of measures to prevent accidents by employees of external companies. Through special safety programs for contractor employees and the consistent inclusion of outside companies in ongoing safety activities at our sites, we have helped to ensure that the number of accidents involving contractor employees has declined significantly. In recent years we have reached a year-on-year safety plateau with our own employees. In other words, the accident figures show only minor positive or negative changes. We began developing a program in 2018 with an eye to breaking through this plateau and ushering in a long-term positive trend. This program intends to reduce the incidence of errors and improve the consistency of decision-making in crisis situations. By implementing the SafeGuard program, we expect to generate further momentum that will help to raise the safety level and consequently register fewer accidents. To this end, Covestro is currently defining 24 focal points and developing corresponding, discipline-specific solutions.

Since 2016, we have analyzed all near-misses for their potential risk of a serious accident. We expanded this procedure in 2018 to include all other types of events, which we evaluate according to a defined set of criteria with regard to an event's potential which, under other circumstances, could have led to a High Potential Event (HPE). Events classified as HPEs are thus treated as events that have actually occurred; they require a detailed cause analysis and must be communicated. The analysis of the data in 2018 resulted in the same priority activities that had already been identified in 2017. The priorities concern protecting employees' hands at work and human-machine interaction. Promoting safety awareness among employees is essential for minimizing hazards during day-to-day operations. In 2018, Covestro celebrated an anniversary, awarding the CEO Safety Award for the tenth time. All employees were once again called upon to submit suggestions for improving safety and to apply for the annual internal CEO Safety Award. All of the ideas were evaluated by a jury of in-house participants; the Chair of the Covestro Board of Management, Dr. Markus Steilemann, presented awards to the winners.

Process and plant safety

We aim to ensure the safety of our processes and plants in a way that avoids unacceptable risks to our employees, our neighbors and the environment. We conduct extensive, systematic safety inspections at regular intervals. A globally standardized KPI, Loss of Primary Containment (LoPC), applies to all Covestro plants and is an early indicator integrated into Group-wide safety reporting. LoPC refers to, for example, chemicals in amounts above defined thresholds leaking from their primary containers, such as pipelines, pumps, tanks or drums. We use the LoPC Incident Rate (LoPC-IR) to determine the number of LoPC incidents per 200,000 working hours per year in areas relevant to plant safety. The continuous improvement in plant safety at Covestro is also reflected in the decline in the LoPC rate compared with the previous year.

Plant Safety Incidents

	2017	2018
LoPC IR[1, 2]	0.52	0.35

[1] LoPC IR (Loss of primary containment incident rate): Number of plant incidents per 200,000 working hours annually
[2] The number of hours worked was calculated by multiplying the average number of employees for the year by average values determined using OECD statistics and other figures. The number of underlying working hours was retroactively adjusted for fiscal 2017.

Every LoPC incident as well as minor and near-miss incidents are carefully analyzed to determine their causes, and the results and corrective actions taken are publicized throughout the Group. The criteria (e.g. very low threshold or nonhazardous substance releases) were selected so that even releases of substances or energy that have no impact on employees, neighbors or the environment are systematically recorded. This contributes to maintaining the integrity of our facilities. The findings of last year's analyses were evaluated in a company-wide program called SafeGuard, and a Group-wide initiative was launched focusing on "Development of the organization and qualifications," "Process and plant safety," "Technological standardization" and "Process control technology and process analysis technology." The global exchange of experiences relevant to safety and the definition of globally binding standard processes and their uniform implementation are intended to help maintain the existing high standard of procedural and plant safety within the company.

Environmental and transportation incidents

Side by side with continuous improvement of process and plant safety and safety in the workplace, we are constantly working on making the transportation of our products safer. We report all incidents at all sites operated by Covestro worldwide in line with our internal directives. These are documented according to defined criteria such as quantitiy of loss of containment, material hazard class, degree of personal injury and blocked transportation routes. In the case of hazardous materials, we voluntarily record and categorize all leaks starting with as little as 50 kilograms. In addition to numerous regional monitoring activities, a gap analysis was conducted in 2018 to verify compliance with the rules of the Group-wide guideline entitled Transport and Logistics Safety. Corresponding corrective measures were derived from the findings and implemented.

9. Environmental Protection

Environmental protection and the efficient use of resources are fundamental drivers for Covestro's actions, both in terms of our own business activities and the development of innovative product solutions. We continually strive to use materials and energy more efficiently and to reduce emissions and waste generated. Our innovative products also support the efforts of our customers in many industries such as the automotive, construction and electronics sectors, as well as the furniture, sports and textile industries, to improve their own resource efficiency and cut emissions.

For more information, see section 9 in the GRI Supplement

Energy consumption

Covestro's energy consumption includes the primary energy used in production and during electricity and steam generation by the company as well as the purchase of additional electricity, steam and refrigeration energy and the use of process heat. It also comprises the energy lost during the generation and distribution of electricity and steam. All told, these figures make up Covestro's equivalent primary energy consumption.

The use of energy and materials and the level of greenhouse gases emitted are closely related to the quantity of materials we produce. In 2018, total energy consumption in the Group decreased by 1.8% while equivalent primary energy consumption grew slightly by 0.5%, with a slight decrease of 0.7% in production volumes. As a result, the equivalent primary energy consumption for a given production volume (energy efficiency) deteriorated by 1.2%. Our long-term positive trend indicating an overall 35.7% improvement in energy efficiency compared to the base year 2005 is attributable to factors including our ongoing efficiency improvement programs and the global energy efficiency system observed by Covestro.

Energy Consumption in the Covestro Group

	2017	2018
Equivalent primary energy consumption[1] (in TJ)	75,202	75,553
Production volume[2] (in million metric tons)	14.97	14.87
Specific energy consumption (energy efficiency)[3] (in MWh per metric ton)	**1.40**	**1.41**

[1] Sum of all individual energy figures translated into primary energy at our main production sites, which account for more than 95% of our energy consumption
[2] Sum of the in-spec key products, which in addition to our core products also include products such as precursors and by-products, at our main production sites, which account for more than 95% of our energy consumption
[3] Quotient of equivalent primary energy and in-spec production volume at our main production sites

In addition to the successful implementation of energy efficiency measures, a series of energy-related improvements at our production site in Caojing, China, is of particular note. Examples include the use of process-related waste heat and optimized processes that reduce steam requirements.

For more information, see section 9 in the GRI Supplement

Covestro currently plans to build a chlorine production plant at its Spanish site in Tarragona, where it will use a particularly energy-efficient manufacturing process. The plant intends to use what is known as oxygen-depolarized cathode technology, which consumes around one-quarter less energy than the conventional process. In Tarragona, Covestro is building the first industrial-scale plant to operate solely on the basis of this state-of-the-art technology.

Greenhouse gas emissions

Along with governments, nongovernmental organizations and other private-sector companies, Covestro supports implementation of the results of the 21st UN Climate Change Conference, which took place in Paris at the end of 2015, and is committed to the UN Sustainable Development Goals (SDGs).

Covestro calculates greenhouse gas emissions according to the internationally recognized standards of the Greenhouse Gas Protocol (GHG Protocol). The calculations include both direct emissions from the burning of fossil fuels and indirect emissions from the procurement and consumption of energy generated outside the company such as electricity, heating or refrigeration energy. In addition to CO_2, all other relevant greenhouse gases are also documented. The emissions factors for the calculation of CO_2 equivalents for the global warming potential were taken from the 1995 IPCC Assessment Report.

In 2018, these specific emissions totaled 0.4342 metric tons of CO_2 equivalents per metric ton of product (previous year: 0.4064). This corresponds to a cumulative drop of 40.0% compared with the base year 2005, while an increase of 6.8% compared to the previous year was recorded. In 2018 we transitioned to calculating emissions based on the market-based method of the current GHG Protocol. The prior-year figures were recalculated to enable comparison based on consistent methodology. The cumulative change until 2017 is calculated using the method established in the GHG Protocol until 2014. The 2018 figure is calculated using the market-based method of the current GHG Protocol.

Covestro Group Greenhouse Gas Emissions[1]

	2017	2018
Specific greenhouse gas emissions (metric tons of CO_2 equivalents per metric ton of production volume[2])	0.4064[3]	0.4342

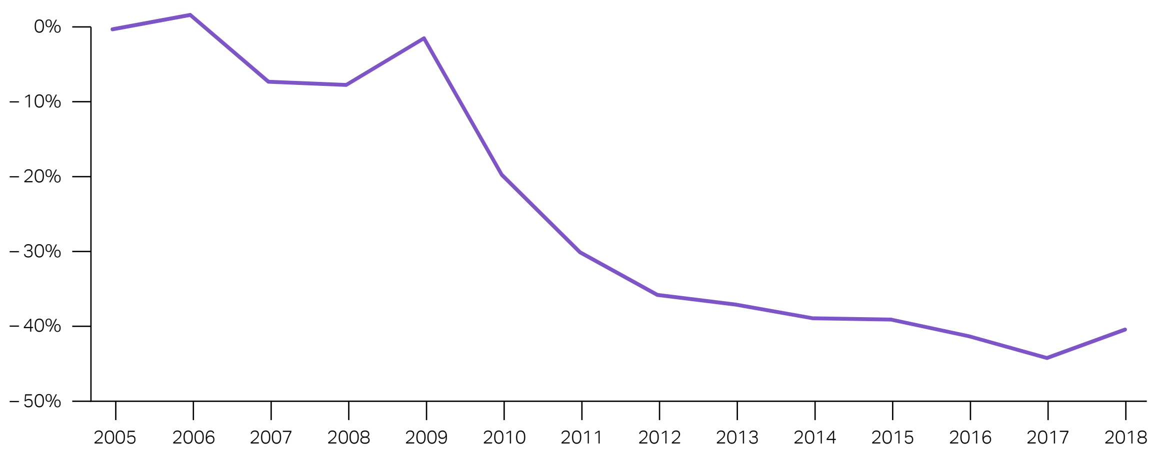
[1] Portfolio-adjusted based on the GHG Protocol; financial control approach; global warming potential (GWP) factors correspond to the "IPCC 2nd Assessment Report"
[2] Total greenhouse gas emissions (Scope 1 and 2, GHG Protocol) at the main production sites, which are responsible for more than 95% of our energy consumption (total of 6.5 million metric tons of CO2 equivalents in 2018) divided by the in-spec production volumes for key products. Market-based emissions factors were mostly used when calculating specific Scope 2 greenhouse gas emissions; wherever these were not available, calculation was based on country-specific emissions factors from a generally accepted source (e.g. International Energy Agency (IEA)).
[3] Prior year figures adjusted due to the conversion to market-based emissions method in accordance with the current GHG Protocol. The indirect emissions were calculated partially on the basis of the IEA data from the IEA Emission factors 2018 © 2019 IEA Online Data Services, www.iea.org/statistics. The greenhouse gas emissions calculated are based in part on estimates such as the previous year's data.

See section 5 "Company-wide Sustainability Management"

The main cause of the increase was unfavorable developments in the energy mix for the generation of steam and electricity at several of our large sites in Germany and the United States. This necessitates redoubled efforts in coming years to reach our target of cutting our greenhouse gas emissions in half by 2025.

Development of Specific Greenhouse Gas Emissions

(Cumulative annual change in the specific greenhouse gas emissions per metric ton of product manufactured, compared with the base year 2005 – expressed in percent[1])



[1] The calculation methods for the fiscal year 2018 were changed to the current market-based method, in accordance with the Scope 2 Guidance of the GHG Protocol. Values recognized from 2005 to 2017 are calculated throughout in accordance with the methods established in the GHG Protocol and which were in effect until 2014. When calculating changes in percentage points from 2017 to 2018, the value for 2017 was recalculated on the basis of the market-based method, for comparability purposes.

Moreover, Covestro develops products whose manufacture results in lower CO_2 emissions than those of conventional products – by using CO_2 as a raw material, for instance. To this end, the company began marketing an innovative binder for which a key component is produced using as much as 20% CO_2. In this way, the same quantity of petrochemical raw materials is saved and the CO_2 footprint improves.

Water, effluents and waste

Covestro takes a holistic view of water as a resource. We not only take our water consumption and the related problems of water scarcity and water quality into consideration but also the wastewater we generate and the growing concern of plastic waste in the oceans.

As part of this, we initiated a risk assessment of our production sites to examine water availability, quality and accessibility. In our production activities, we strive to use water several times and to recycle it. Covestro primarily generates wastewater from once-through cooling systems and production. All wastewater is subject to strict monitoring and analysis according to the applicable legal regulations before it is discharged into disposal channels.

For economic considerations alone, Covestro's manufacturing processes are already as efficient as possible when it comes to the use of materials, so only relatively little waste is produced as a result. Ongoing observation and evaluation of the manufacturing processes additionally minimize material consumption and disposal volumes as much as possible. This is achieved by safe disposal channels with separation according to the type of waste and economically expedient recycling processes. Production fluctuations, building demolition and refurbishment, and land remediation also influence waste volumes and recycling paths. Accordingly, the volume of hazardous waste generated was reduced, whereas the total waste volume produced (hazardous and nonhazardous) in 2018 increased significantly. This was primarily due to the higher volume of construction waste resulting from the construction of the new administrative building at the Leverkusen site. Targeted projects are in place to determine specific opportunities for waste reduction and put these into practice within the context of our existing manufacturing processes. For instance, a new procedure is currently being tested in the manufacturing process for our bulk product toluene diisocyanate (TDI), which serves to significantly reduce the resulting process waste volumes. After its successful implementation, the findings can subsequently be transferred to additional plants at other Covestro sites.

Covestro also supports the reuse and treatment of its materials in accordance with economic and environmental criteria. Some of the waste created by our production processes with a high heating value is burned as fuel to generate steam for our production facilities.

Our commitment to the topic of sustainability plays an increasingly vital role with regard to the purchasing of packaging materials. The responsible unit has implemented measures to address this, including establishing a new procedure in the packaging procurement process. This allows Covestro to now review whether and to what extent used or reconditioned packaging can be used in the place of new packaging. For instance, Covestro uses PCR (post consumer regrind) plastic barrels for waste transportation. Drums made of recycled polyethylene (PE) replace PE drums from newly produced material. Thus, Covestro uses fewer raw materials, reduces emissions and has established the initial building blocks for a circular economy in the area of transport and packaging.

Covestro supports initiatives such as Operation Clean Sweep® (OCS), which focus on preventing plastic particles from entering waterways and oceans. We have introduced global measures to minimize as best as possible the loss of plastic pellets on the way from production to the finished product at our customers' locations. In 2018, we once again urged our partners in the supply chain to join the initiative, while at the same time continually monitoring our own progress. In 2019, we would like to further strengthen our commitment to the OCS initiative and provide additional encouragement to our supply chain partners.

10. Product Stewardship

For more information, see section 10 in the GRI Supplement

Product stewardship for Covestro means the comprehensive evaluation of health, safety and environmental risks. We want to ensure that our products are safe throughout their entire life cycle – from research, production, marketing and use by the customer through to disposal.

Monitoring the quality of our products and their suitability for particular applications is anchored in the operational units. Safe transportation, training for specifically regulated applications and marketability are centrally managed at Covestro. The obligation to report to the Board of Management is also allocated to these central offices.

The safe use and application of our products has high priority. It is therefore important to convey product safety information transparently and comprehensively. In addition to the legally required documentation, we also provide further information. What's more, we offer corresponding training in line with the Global Product Strategy of the International Council of Chemical Associations (ICCA). Furthermore, experts in all areas of the company work closely with suppliers, customers, industry associations and the public. Covestro aims to ensure the effective communication and observance of health, safety and environmental information along the supply chain.

Management of product stewardship

Product stewardship involves both compliance with statutory requirements and voluntary commitment. Here we also take into account the precautionary principle as explained in Principle 15 of the Rio Declaration of the United Nations and communication COM(2000) 1 of the European Commission.

The precautionary principle is an important means of protecting consumers and the environment within the context of risk management. It may be applicable if, according to an objective and comprehensive scientific evaluation, material or irreversible harm to people and the environment may occur, but the risk of this cannot be established with sufficient certainty. In this, we follow the general principles of the European Commission for application of the precautionary principle. These include especially the proportionality of the measures taken, examination of the benefits and costs of all relevant options, and review of the measures taken in light of new scientific developments.

In particular, arbitrary decisions cannot be justified by invoking the precautionary principle.

As a contribution to the safe handling and use of chemicals, risk assessments are carried out applying recognized scientific principles such as those described by the European Chemicals Agency (ECHA) in its Guidance on Information Requirements and Chemical Safety Assessment. A determination is made based on a hazard assessment and exposure estimation as to which additional information is required for the risk characterization of a product.

A product safety assessment at Covestro takes place in several steps. First, we identify chemicals that are subject to statutory regulations and document the corresponding regulation. We then examine the risk potential of our products.

Should the assessment or new findings reveal that it is not safe to use a certain chemical, we take the necessary steps to mitigate risks. Such steps can range from technical measures such as protective gear and revised application recommendations to the withdrawal of support for a certain application and substitution of a substance. In this case, an adequate replacement must be sought which can be produced in a technically and economically feasible way.

Finally, we produce the legally required material safety data sheets, technical information sheets and labeling for the chemicals. We also compile these documents for chemicals that are not subject to this legal obligation, whereby we go beyond the statutory requirements. All product groups undergo this process.

All information about the safe and compliant use of our products is documented and analyzed, and thus provides a jumping-off point for further improvements. This includes product monitoring and reporting on product-related and compliance incidents. Our global regulations contain rules and guidance on when and how this information is to be used.

Fundamentally, the optimization of products and processes is an ongoing task of the chemical industry and is integral to our commitments as part of the Responsible Care initiative. We also participate in the further development of scientific risk assessments through our involvement in associations and initiatives.

International associations such as the European Chemical Industry Council (CEFIC) and the International Council of Chemical Associations (ICCA) are working to improve the scientific assessment of chemicals and research new testing methods. Moreover, they monitor implementation of legal regulations. Covestro is actively involved in industry association activities. We also endorse the initiatives of the World Health Organization (WHO) and the EU to improve health and the environment, for example with the further development of human biomonitoring through an alliance with the German Chemical Industry Association (Verband der Chemischen Industrie, VCI) and the German Federal Ministry of the Environment.

Implementation of regulations and voluntary programs pertaining to chemicals

Covestro adheres to the applicable regulations pertaining to chemicals, such as the regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) in Europe and the Toxic Substances Control Act (TSCA) in the United States. These regulations are aimed at protecting human health and the environment from the risks posed by chemicals and shape our activities as a manufacturer, importer and user of chemicals. We have established internal regulations to adequately address the scope and complexity of the relevant requirements.

Substances registered according to REACH are assessed by regulators. This can result, for example, in additional testing requirements, new risk management measures, or inclusion in the REACH authorization procedure. A number of Covestro substances are also affected by this procedure, which restricts the use of particularly hazardous substances or can lead to their replacement or prohibition. The planned restriction on diisocyanates currently being discussed in EU committees is one example of a potential restriction. Although diisocyanates will still be available on the market, their use in the workplace will require specific training and the implementation of (risk) management measures in the future. Following a special examination of diisocyanate applications, it is possible to be excluded from this restriction. Covestro supports this measure and advocates a practical and effective arrangement, for example regarding the preparation of training materials.

Covestro continues to pursue the goal of completing the assessment of the hazard potential for all substances used around the world in quantities exceeding one metric ton per annum by 2020. We thus exceed statutory requirements. In addition, we ensure that substance assessments comparable to those meeting the high standards of REACH or the TSCA will also be applied at Covestro sites that are not subject to these regulations. The relevant procedure is established in the Group Regulation “Product Stewardship” in the annex entitled “Substance Information and Availability.” In accordance with the European guideline on the classification and labeling substances (CLP Regulation), we revised our assessment procedure last year and added new endpoints of particular relevance for the application of Covestro products. This results in a temporarily lower assessment rate; however, actively addressing the matter will ultimately allow us to further improve our substance information availability in the long term. When it comes to purchased substances, we are dependent on information provided by our suppliers. In this regard, however, we expect that the availability of data will also continue to be limited in the future, particularly outside of the EU.

Another example of our commitment to Responsible Care is the worldwide support we provide for customers for safely handling large quantities of reactive products through tank-farm safety assessments.

We support the Global Product Strategy (GPS), a voluntary commitment by the chemical industry initiated by the ICCA. Its objective is to improve knowledge about chemical products, especially in emerging and developing countries, and thus increase safety in the handling of these products. The ICCA has established an information portal through which summarized details on products are made available. GPS is accessible at Covestro through the Product Safety First internet portal and is available worldwide. On this website, we inform customers and other interest groups about safety-relevant properties and the safe handling of our products.

Substances that are the subject of public debate

Covestro is following the scientific discussion about the chemical bisphenol A (BPA), a main feedstock for various plastics. Critics, but also some authorities, are concerned that risks could result for users and the environment if traces of BPA are released from products. At this time, these concerns are primarily being addressed under the European chemical regulation REACH.

Based on numerous scientifically valid and high-quality studies, Covestro is confident that BPA can be safely used in its intended areas of application. In the case of food safety, for example, this is supported by the latest evaluations from the responsible European and American authorities, namely the European Food Safety Authority (EFSA) and Food and Drug Administration (FDA). Reflecting this conviction, Covestro is actively working within the framework of regulatory processes to dispel uncertainties and answer open questions.

We continue working to make the discussion more objective based on all of the scientific data and in cooperation with the PlasticsEurope association, the American Chemistry Council (ACC) and the China Petroleum and Chemical Industry Federation (CPCIF). Covestro is involved in the debate, providing information to customers and the public through associations and the Covestro website.

Report on Economic Position

11. Economic Environment

Global economy

At 3.1%, the global economy continued to grow at about the prior-year pace in 2018. In the United States, the economy performed better than in the previous year, mainly driven by expansive fiscal policy, tax reforms and robust job growth. The economy in the European Union remained dynamic despite weaker year-on-year growth as fiscal supports and emerging labor markets boosted domestic demand. In China, economic growth continued, reaching 6.6% over the previous year, and was driven primarily by consumption. However, increasing barriers to trade had a dampening effect.

Economic Environment

	Growth[1] 2017	Growth[1] 2018
	%	%
World	**+3.2**	**+3.1**
European Union	+2.6	+1.9
of which Germany	+2.5	+1.5
NAFTA	+2.3	+2.7
of which United States	+2.2	+2.9
Asia-Pacific	+5.0	+4.9
of which China	+6.8	+6.6

[1] Real growth of gross domestic product, source: IHS (Global Insight), as of February 2019

Main customer industries[6]

In fiscal 2018, automotive production worldwide dropped around 1%. Despite a decline in sales of some 4%, China remains the most important sales market for the automotive industry. The Eastern Europe and Latin America regions managed to register considerable growth, while North America, Asia, and particularly Western Europe were lower year on year.

In 2018, growth in the global construction industry, at approximately 3%, was weaker than in the previous year. An ongoing recovery in Eastern Europe and Latin America as well as the continued stability of the investment climate in North America were unable to offset the decline in growth in Western Europe and China.

The global electrical, electronics and household appliances industry expanded by some 7% in 2018. Growing approximately 11% on average, the emerging economies continued their positive performance in contrast with weaker growth of some 4% in the industrialized countries.

In 2018, the global furniture industry grew by roughly 2% year over year. All regions saw positive growth rates, although Asia stands out as the main driver at around 4%.

[6] Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), Oxford Economics

12. Covestro Group Business Development

Covestro Group Key Data

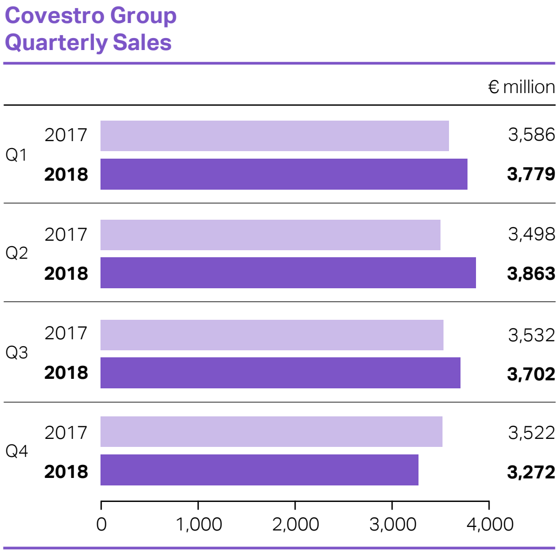
	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+4.2%**	**+1.7%**		**+3.4%**	**+1.6%**	
Sales	**3,522**	**3,272**	**–7.1**	**14,138**	**14,616**	**+3.4**
Change in sales						
Volume	+4.6%	+2.9%		+4.3%	+2.3%	
Price	+17.4%	–9.3%		+16.1%	+4.5%	
Currency	–5.3%	+0.3%		–1.6%	–3.0%	
Portfolio	0.0%	–1.0%		0.0%	–0.4%	
EBITDA	**879**	**293**	**–66.7**	**3,435**	**3,200**	**–6.8**
Depreciation and amortization	**151**	**153**	**+1.3**	**627**	**620**	**–1.1**
EBIT	**728**	**140**	**–80.8**	**2,808**	**2,580**	**–8.1**
Financial result	**(27)**	**(24)**	**–11.1**	**(150)**	**(104)**	**–30.7**
Net income	**566**	**79**	**–86.0**	**2,009**	**1,823**	**–9.3**
Operating cash flows	**890**	**641**	**–28.0**	**2,361**	**2,376**	**+0.6**
Cash outflows for additions to property, plant, equipment and intangible assets	**235**	**278**	**+18.3**	**518**	**707**	**+36.5**
Free operating cash flow	**655**	**363**	**–44.6**	**1,843**	**1,669**	**–9.4**
Net financial debt[2]				**283**	**348**	**+23.0**
ROCE				**33.4%**	**29.5%**	

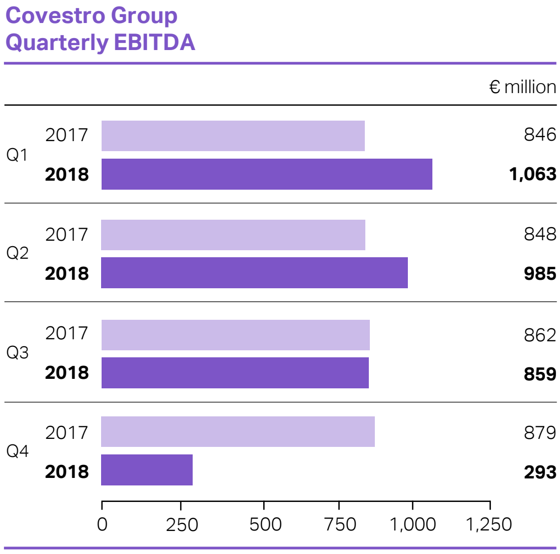
1 Reference values calculated based on the definition of the core business effective March 31, 2018
2 As of December 31, 2018, compared with December 31, 2017

The Group's core volumes in 2018 as a whole rose 1.6% over the prior-year period. All segments contributed to this growth. The Polycarbonates and Coatings, Adhesives, Specialties segments reported growth rates of 3.0% and 2.5%, respectively. The Polyurethanes segment expanded core volumes by 0.8%.

In fiscal 2018, Group sales rose 3.4% year over year to €14,616 million (previous year: €14,138 million). This is largely due to higher selling prices, which were up 4.5% on average. The increase in total volumes sold had a positive effect of 2.3% on sales. In contrast, the effects of exchange rate developments had a negative impact on sales with 3.0%. The portfolio effect from the sale of the U.S. sheet business in the Polycarbonates segment additionally reduced sales by 0.4%.

In 2018, growth in Group sales was driven chiefly by the Polycarbonates segment. Sales here rose 8.4% to €4,051 million (previous year: €3,737 million). Sales of Coatings, Adhesives, Specialties increased by 1.5% to €2,361 million (previous year: €2,327 million) and the Polyurethanes segment remained stable at €7,362 million (previous year: €7,386 million).





The Group's EBITDA in 2018 as a whole decreased 6.8% over the prior-year period to €3,200 million (previous year: €3,435 million). This drop was primarily due to significantly more intense competition, which led to substantially lower margins in the fourth quarter of 2018. In addition, this period saw various nonrecurring expenses, such as higher logistics costs due to the low level of the Rhine River and expenses related to the Perspective efficiency program. In the full year 2018, higher volumes and the change in margins, which was still positive on the whole, were unable to balance out the negative effects of exchange rate movements and increases in other functional cost items.

In the Polyurethanes segment, EBITDA slid 19.1% to €1,763 million (previous year: €2,179 million). The Polycarbonates segment's EBITDA rose 21.5% to €1,036 million (previous year: €853 million). At €464 million, EBITDA in the Coatings, Adhesives, Specialties segment was down 4.5% on the prior-year figure (previous year: €486 million).

Depreciation, amortization and impairments for 2018 as a whole decreased 1.1% to €620 million (previous year: €627 million). They comprised €599 million (previous year: €602 million) in depreciation and impairments of property, plant and equipment and €21 million (previous year: €25 million) in amortization and impairments of intangible assets. These included impairment losses totaling €7 million (previous year: €6 million). There were no impairment loss reversals in fiscal 2018 (previous year: €18 million).

In the 2018 fiscal year, the Covestro Group's EBIT dropped 8.1% to €2,580 million (previous year: €2,808 million).

Taking into account a financial result of minus €104 million (previous year: minus €150 million), income before income taxes declined 6.8% from the prior-year period to €2,476 million (previous year: €2,658 million). After tax expense of €647 million (previous year: €641 million), income after income taxes was €1,829 million (previous year: €2,017 million). After noncontrolling interests, net income amounted to €1,823 million (previous year: €2,009 million).

At €2,376 million, operating cash flows remained at the previous year's level in fiscal 2018 (previous year: €2,361 million). A decline in EBITDA and increased income tax payments stood in contrast to a decrease in cash tied up in working capital.

In the reporting period, free operating cash flow was down 9.4% to €1,669 million (previous year: €1,843 million) due to a rise in cash outflows for additions to property, plant, equipment and intangible assets. These outflows totaled €707 million in 2018 (previous year: €518 million).

In the 2018 fiscal year, Covestro earned a substantial premium on its capital costs. The ROCE of 29.5% (previous year: 33.4%) was well under the WACC of 6.7% (previous year: 6.6%). At €1,474 million, however the resulting positive value contribution fell below the prior-year figure of €1,710 million.

Covestro Value Management Indicators at a Glance

	2017	2018
	€ million	€ million
NOPAT	2,131	1,907
Average capital employed	6,378	6,468
WACC	6.6%	6.7%
ROCE	33.4%	29.5%
Value contribution	1,710	1,474

Calculation of return on capital employed

See section 17 "Alternative Performance Measures"

ROCE measures profitability and is calculated as the ratio of the operating result (EBIT) after taxes (NOPAT = net operating profit after taxes) to the average capital employed. Taxes are determined by multiplying the effective tax rate by EBIT. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

Target Attainment

The Covestro Group's fiscal year was successful on the whole. However, the very positive business performance in the first six months was followed by progressive weakening throughout the rest of the year. In the first half of the year, the MDI and TDI product groups and the PCS segment generated record-breaking margins, largely due to a positive supply/demand situation. Increasing competitive pressure in the fourth quarter of 2018 led to a massive decrease in margins, especially in the Polyurethanes segment. In addition, earnings were diminished by nonrecurring expenses such as logistics costs due to the low level of the Rhine River and expenses related to the Perspective efficiency program. As a result of this development, the forecast lifted in July 2018 had to be adjusted on November 20, 2018.

Target Attainment 2018

	2017	Forecast 2018[1]	Latest forecast[2]	Target attainment 2018
Core volume growth	+3.4%	Low- to mid-single-digit-percentage range	Low-single-digit-percentage range	+ 1.6%
Free operating cash flow	€1,843 million	Significantly above the average of the last three years[3]	Slightly below the previous year	€1,669 million
ROCE	+33.4%	Approaching the 2017 level	Slightly below the 2017 level	+ 29.5%

1 Published on February 20, 2018 (Annual Report 2017)
2 Published on November 20, 2018 (ad-hoc statement)
3 Average free operating cash flow from 2015 to 2017: €1,391 million

At 1.6%, our core volume growth met our forecast target. All segments further expanded core volumes compared with the previous year. In line with the most recent projection, free operating cash flow and ROCE fell slightly below the prior-year figures. Overall we generated a significant premium on capital costs, as in the previous year.

13. Business Development by Segment

Polyurethanes

Polyurethanes Key Data[1]

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**+5.3%**	**+2.3%**		**+3.1%**	**+0.8%**	
Sales	**1,876**	**1,597**	**–14.9**	**7,386**	**7,362**	**–0.3**
Change in sales						
Volume	+6.9%	+2.5%		+3.5%	+0.9%	
Price	+26.2%	–17.6%		+28.2%	+1.9%	
Currency	–5.8%	+0.2%		–1.8%	–3.1%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	787	678	–13.9	3,147	3,182	+1.1
NAFTA	442	474	+7.2	1,868	1,947	+4.2
APAC	647	445	–31.2	2,371	2,233	–5.8
EBITDA	**612**	**111**	**–81.9**	**2,179**	**1,763**	**–19.1**
EBIT	**529**	**27**	**–94.9**	**1,826**	**1,412**	**–22.7**
Operating cash flows	**595**	**393**	**–33.9**	**1,352**	**1,386**	**+2.5**
Cash outflows for additions to property, plant, equipment and intangible assets	**126**	**171**	**+35.7**	**276**	**414**	**+50.0**
Free operating cash flow	**469**	**222**	**–52.7**	**1,076**	**972**	**–9.7**

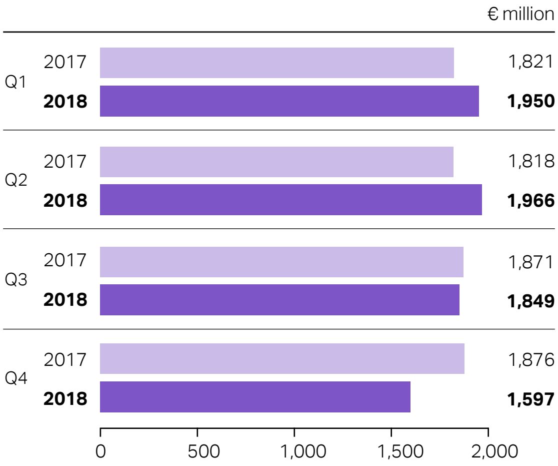
[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in Polyurethanes rose by 0.8% over the prior-year period.

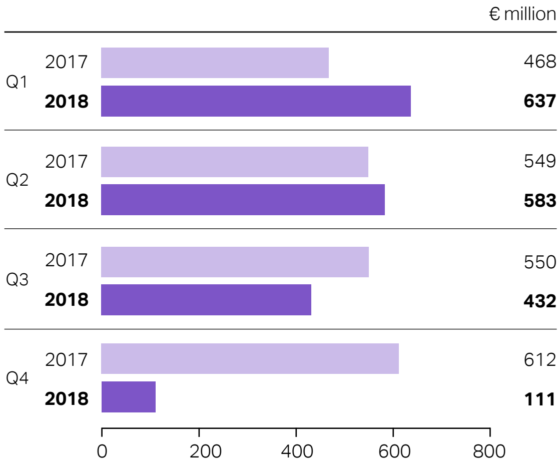
At €7,362 million, the Polyurethanes segment's sales remained stable year-on-year (previous year: €7,386 million). The increases in total volumes sold of 0.9% and average selling prices of 1.9% largely balanced out exchange rate movements, which reduced sales by 3.1%.

In the EMLA region, sales rose by 1.1% to €3,182 million (previous year: €3,147 million). Slightly higher selling price levels and stable total volumes more than offset mildly negative exchange rate changes. The NAFTA region's sales grew 4.2% to €1,947 million (previous year: €1,868 million). A significant increase in average selling prices more than compensated for strongly negative currency effects. Total volumes sold in the region remained stable. Sales in the APAC region declined 5.8% to €2,233 million (previous year: €2,371 million). This was due to a modest decrease in selling price levels and a slightly negative trend in exchange rates. In contrast, total volumes sold increased somewhat.

Polyurethanes
Quarterly Sales[1]



Polyurethanes
Quarterly EBITDA[1]



[1] All 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.

EBITDA was down 19.1% from the prior-year period, dropping to €1,763 million (previous year: €2,179 million). Although greater total volumes and higher average selling prices in 2018 improved earnings, these increases could not offset the negative effects of increasingly intense competition and consequently lower margins, particularly in the fourth quarter of 2018. In addition, the 2017 earnings reflected significant one-time revenue streams.

EBIT dropped to €1,412 million (previous year: €1,826 million).

Free operating cash flow amounted to €972 million, down 9.7% from the prior-year figure of €1,076 million. The lower EBITDA and higher cash outflows for additions to property, plant and equipment stood in contrast to the greater availability of working capital, particularly in trade accounts receivable.

Polycarbonates

Polycarbonates Key Data

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+3.7%**	**+1.6%**		**+5.0%**	**+3.0%**	
Sales	**939**	**924**	**–1.6**	**3,737**	**4,051**	**+8.4**
Change in sales						
Volume	+5.2%	+4.2%		+7.1%	+3.8%	
Price	+13.1%	–2.3%		+8.0%	+9.7%	
Currency	–5.6%	+0.3%		–1.8%	–3.4%	
Portfolio	0.0%	–3.8%		0.0%	–1.7%	
Sales by region						
EMLA	315	301	–4.4	1,241	1,347	+8.5
NAFTA	206	200	–2.9	874	817	–6.5
APAC	418	423	+1.2	1,622	1,887	+16.3
EBITDA	**213**	**133**	**–37.6**	**853**	**1,036**	**+21.5**
EBIT	**169**	**88**	**–47.9**	**672**	**861**	**+28.1**
Operating cash flows	**245**	**235**	**–4.1**	**476**	**654**	**+37.4**
Cash outflows for additions to property, plant, equipment and intangible assets	**74**	**70**	**–5.4**	**155**	**186**	**+20.0**
Free operating cash flow	**171**	**165**	**–3.5**	**321**	**468**	**+45.8**

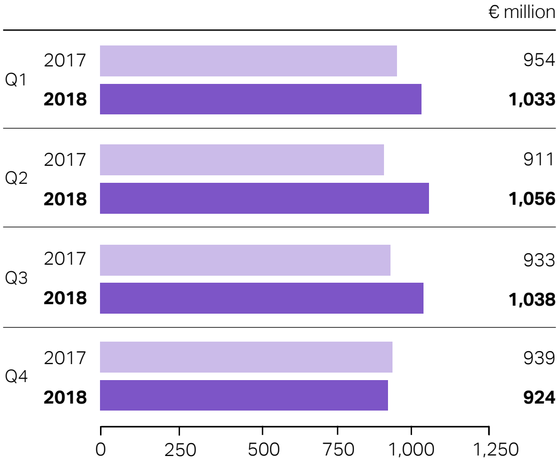
[1] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in the Polycarbonates segment were up 3.0% over the prior-year period.

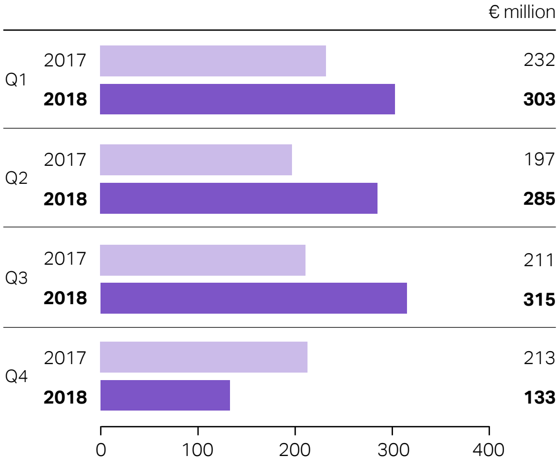
Sales in the Polycarbonates segment rose 8.4% to €4,051 million in fiscal 2018 (previous year: €3,737 million). The key driver here was the year-on-year increase in selling price levels throughout all regions, which boosted sales by 9.7%. Higher total volumes had a positive effect of 3.8% on sales, whereas exchange rate developments lowered sales by 3.4%. Moreover, the portfolio effect from the sale of the U.S. polycarbonate sheet business also reduced sales by 1.7%.

The EMLA region's sales were up 8.5% to €1,347 million (previous year: €1,241 million). A significantly higher selling price level and moderate increase in total volumes had a positive impact on sales. The effect of exchange rate movements remained neutral. In the NAFTA region, sales dropped 6.5% to €817 million (previous year: €874 million), chiefly due to the aforementioned portfolio effect, which caused sales in the region to decline considerably. A substantial rise in average selling prices and stable total volumes sold combined to boost sales, whereas exchange rate changes had a slightly negative effect. The APAC region saw sales grow 16.3% to €1,887 million (previous year: €1,622 million). Much higher selling prices and total volumes offset the mildly negative currency effects.

Polycarbonates Quarterly Sales



Polycarbonates Quarterly EBITDA



EBITDA in the Polycarbonates segment grew 21.5% over the prior-year period, rising to €1,036 million in fiscal 2018 (previous year: €853 million). An overall positive margins trend and greater total volumes lifted earnings, as did the proceeds from the sale of the U.S. sheet business. Over the course of the fourth quarter of 2018, earnings were burdened by an increasingly challenging competitive environment.

EBIT rose by 28.1% to €861 million (previous year: €672 million).

Free operating cash flow rose 45.8% year over year to €468 million (previous year: €321 million), mostly as a result of the improvement in EBITDA. An overall greater availability of working capital also had a positive effect, whereas higher cash outflows for additions to property, plant and equipment had the opposite effect.

Coatings, Adhesives, Specialties

Coatings, Adhesives, Specialties Key Data[1]

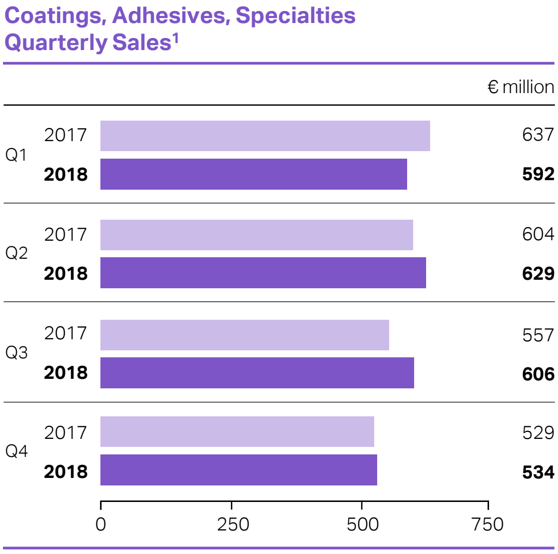
	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**–1.0%**	**–1.8%**		**+1.5%**	**+2.5%**	
Sales	**529**	**534**	**+0.9**	**2,327**	**2,361**	**+1.5**
Change in sales						
Volume	–2.1%	+0.3%		+1.8%	+3.5%	
Price	+3.1%	0.0%		+1.3%	+0.6%	
Currency	–4.3%	+0.6%		–1.1%	–2.6%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	241	240	–0.4	1,085	1,117	+2.9
NAFTA	111	129	+16.2	510	519	+1.8
APAC	177	165	–6.8	732	725	–1.0
EBITDA	**80**	**63**	**–21.3**	**486**	**464**	**–4.5**
EBIT	**56**	**39**	**–30.4**	**396**	**371**	**–6.3**
Operating cash flows	**142**	**107**	**–24.6**	**336**	**309**	**–8.0**
Cash outflows for additions to property, plant, equipment and intangible assets	**37**	**36**	**–2.7**	**87**	**106**	**+21.8**
Free operating cash flow	**105**	**71**	**–32.4**	**249**	**203**	**–18.5**

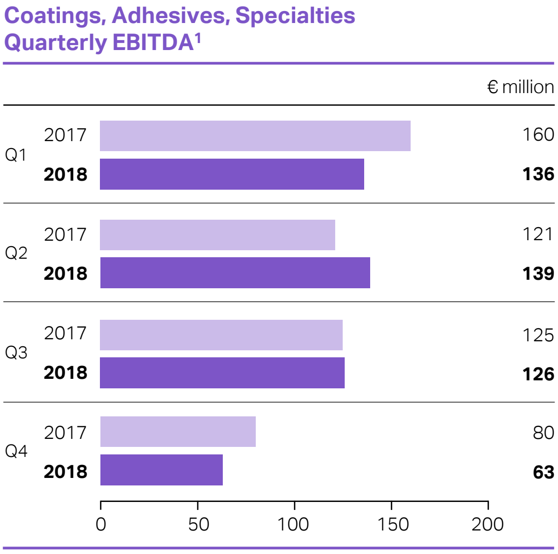
[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in Coatings, Adhesives, Specialties rose by 2.5% over the prior year.

Sales of Coatings, Adhesives, Specialties increased 1.5% to €2,361 million (previous year: €2,327 million). Total volumes lifted sales by 3.5%, while average selling prices had a positive effect of 0.6% on sales. Exchange rate movements reduced sales by 2.6%.

In the EMLA region, sales were up 2.9% to €1,117 million (previous year: €1,085 million) due to a slight increase in total volumes and modestly higher selling prices. The effect of exchange rate developments remained neutral. In the NAFTA region, sales grew 1.8% to €519 million (previous year: €510 million). Minor increases in total volumes and average selling prices more than compensated for slightly negative currency effects. Sales in the APAC region declined 1.0% to €725 million (previous year: €732 million). A sharp rise in total volumes sold only partially offset the somewhat lower selling price level and moderately negative developments in exchange rates.





[1] All 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.

EBITDA was down 4.5% from the previous year's figure, dropping to €464 million (previous year: €486 million). Higher volumes were unable to fully offset the rise in raw material costs and negative currency effects.

EBIT declined 6.3% to €371 million (previous year: €396 million).

Free operating cash flow decreased 18.5% to €203 million (previous year: €249 million). This was chiefly due to lower EBITDA and an increase in cash tied up in working capital.

14. Results of Operations

Covestro Group Summary Income Statements

	2017	2018	Change
	€ million	€ million	%
Sales	14,138	14,616	+3.4
Cost of goods sold	(9,308)	(9,918)	+6.6
Selling expenses	(1,352)	(1,408)	+4.1
Research and development expenses	(274)	(276)	+0.7
General administration expenses	(481)	(491)	+2.1
Other operating expenses (–) and income (+)	85	57	–32.9
EBIT	**2,808**	**2,580**	**–8.1**
Financial result	**(150)**	**(104)**	**–30.7**
Income before income taxes	**2,658**	**2,476**	**–6.8**
Income taxes	(641)	(647)	+0.9
Income after income taxes	**2,017**	**1,829**	**–9.3**
of which attributable to noncontrolling interest	8	6	–25.0
of which attributable to Covestro AG stockholders (net income)	**2,009**	**1,823**	**–9.3**

Group sales in the reporting year rose 3.4% to €14,616 million (previous year: €14,138 million).

There was a 6.6% increase in the cost of goods sold to €9,918 million (previous year: €9,308 million). The ratio of the cost of goods sold to sales increased to 67.9% (previous year: 65.8%).

Selling expenses were up 4.1% to €1,408 million (previous year: €1,352 million), yielding a ratio of selling expenses to sales of 9.6% (previous year: 9.6%). Research and development (R&D) expenses of €276 million were at the prior-year level (previous year: €274 million). The ratio of R&D expenses to sales was 1.9%, as in the previous year. The assets were used mainly for developing new application solutions for our products and improving products and process technologies. The R&D projects are aligned to sustainability aspects.

General administration expenses saw an increase of 2.1% to €491 million (previous year: €481 million). Other operating income exceeded other operating expenses by €57 million (previous year: €85 million). This development was primarily driven by the proceeds from the sale of the U.S. sheet business in the Polycarbonates segment totaling €36 million.

In the reporting period, EBIT amounted to €2,580 million, down 8.1% (previous year: €2,808 million). As a result, the EBIT margin decreased to 17.7% (previous year: 19.9%).

The financial result of minus €104 million (previous year: minus €150 million) was influenced mainly by the net interest expense of minus €47 million (previous year: minus €99 million). Including the financial result, income before income taxes declined 6.8% to €2,476 million (previous year: €2,658 million). The income tax expense of €647 million hovered around the prior-year level (previous year: €641 million). After taxes and noncontrolling interests, net income was down 9.3% and amounted to €1,823 million (previous year: €2,009 million).

15. Financial Position

Covestro Group Summary Statement of Cash Flows

	4th quarter 2017	4th quarter 2018	2017	2018
	€ million	€ million	€ million	€ million
EBITDA	**879**	**293**	**3,435**	**3,200**
Income taxes paid	(241)	(69)	(510)	(574)
Change in pension provisions	4	8	17	26
(Gains) losses on retirements of noncurrent assets	–	(10)	(45)	(45)
Change in working capital/other noncash items	248	419	(536)	(231)
Cash flows from operating activities	**890**	**641**	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets	(235)	(278)	(518)	(707)
Free operating cash flow	**655**	**363**	**1,843**	**1,669**
Cash flows from investing activities	**(72)**	**(254)**	**(747)**	**(346)**
Cash flows from financing activities	**(219)**	**(373)**	**(634)**	**(2,402)**
Change in cash and cash equivalents due to business activities	**599**	**14**	**980**	**(372)**
Cash and cash equivalents at beginning of period	**637**	**846**	**267**	**1,232**
Change in cash and cash equivalents due to exchange rate movements	(4)	5	(15)	5
Cash and cash equivalents at end of period	**1,232**	**865**	**1,232**	**865**

At €2,376 million, operating cash flows remained at the previous year's level (previous year: €2,361 million). A decrease in cash tied up in working capital stood in contrast to a decline in EBITDA and increased income tax payments. Due to increased cash outflows for additions to property, plant, equipment and intangible assets, free operating cash flow decreased to €1,669 million (previous year: €1,843 million).

Capital expenditures in 2018 were targeted at plant maintenance and improvement, as well as especially in new capacities for the three segments. The strategically relevant capital expenditures in property, plant and equipment pertained to the expansion of MDI capacities in Brunsbüttel, Germany, and Tarragona, Spain, at Polyurethanes; the expansion of capacities at the site in Shanghai, China, at Polycarbonates; and the expansion of global production capacities for Specialty Films at Coatings, Adhesives, Specialties.

Net cash outflow for investing activities in 2018 totaled €346 million (previous year: €747 million). Cash outflows for additions to property, plant, equipment and intangible assets of €707 million (previous year: €518 million) stood in contrast to net cash provided by current financial assets.

Net cash outflow for the Covestro Group's financing activities in 2018 amounted to €2,402 million (previous year: €634 million). The cash outflows mainly relate to the acquisition of treasury shares in the amount of €1,313 million, the redemption of the first tranche of the bond program totaling €500 million and Covestro AG's dividend distribution of €436 million.

Net Financial Debt

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Bonds	1,495	996
Liabilities to banks	69	24
Liabilities under finance leases	223	193
Liabilities from derivatives	9	12
Receivables from derivatives	(15)	(12)
Financial liabilities	**1,781**	**1,213**
Cash and cash equivalents	(1,232)	(865)
Current financial assets	(266)	–
Net financial debt	**283**	**348**

Net financial debt increased by €65 million in fiscal 2018 to €348 million (previous year: €283 million). The net cash used in the aforementioned investing and financing activities exceeded the cash flow from operating activities and therefore reduced total cash and equivalents.

Financial 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.

Covestro AG currently holds a Baa1 investment-grade rating with a stable outlook from the rating agency Moody's Investors Service, London (United Kingdom).

Covestro AG operates a Debt Issuance Program as a framework with a total volume of €5,000 million to facilitate obtaining flexible financing from the capital market. The company is thus in the position to issue fixed- and variable-rate bonds as well as to undertake private placements.

Under the program, Covestro AG successfully placed three bonds with a total volume of €1,500 million on March 3, 2016. The bonds comprise 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). A variable-rate tranche with a volume of €500 million and a coupon of 0.60 percentage points above the three-month Euribor was redeemed in March 2018 as planned. The outstanding bonds are valued at Baa1 by Moody's Investors Service.

The liquidity acquired in this way is intended to be used for general financing needs. Covestro AG agreed a syndicated revolving credit facility with a banking consortium 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 Covestro Group pursues a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. This portfolio will be based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

As a company with international operations, Covestro is exposed to financial opportunities and risks. These are continuously monitored within the context of Covestro's financial management activities. Derivative financial instruments are used to minimize risks.

Please see section 21 "Opportunities and Risks Report" for further details of financial opportunities and risks.

16. Net Assets

Covestro Group Summary Statement of Financial Position

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Noncurrent assets	5,606	5,801
Current assets	5,735	5,283
Total assets	**11,341**	**11,084**
Equity	**5,365**	**5,375**
Noncurrent liabilities	2,885	3,126
Current liabilities	3,091	2,583
Liabilities	**5,976**	**5,709**
Total equity and liabilities	**11,341**	**11,084**

Total assets declined by €257 million compared with December 31, 2017, to €11,084 million as of December 31, 2018 (previous year: €11,341 million).

Noncurrent assets increased by €195 million to €5,801 million (previous year: €5,606 million) and accounted for 52.3% (previous year: 49.4%) of total assets. This change was primarily attributable to the increase in value of property, plant and equipment by €113 million and the growth in deferred taxes by €80 million. Current financial liabilities declined by €452 million to €5,283 million (previous year: €5,735 million) and therefore accounted for 47.7% (previous year: 50.6%) of total assets. This was due mainly to the decline in cash and cash equivalents and other financial assets.

Equity as of December 31, 2018, increased by €10 million to €5,375 million (previous year: €5,365 million). The equity ratio amounted to 48.5% as of the reporting date (previous year: 47.3%). Income after income taxes was sufficient to offset the equity-reducing effects of the acquisition of treasury shares, the dividend distribution and the remeasurement of pension obligations.

Liabilities were down €267 million as of the reporting date, totaling €5,709 million (previous year: €5,976 million). Provisions for pensions and other post-employment benefits increased by €258 million. Noncurrent financial liabilities decreased by €47 million to €1,166 million (previous year: €1,213 million). Current financial liabilities declined by €524 million to €59 million (previous year: €583 million). The key driver here was the redemption of the first tranche of the bond program totaling €500 million.

Net Defined Benefit Liability for Post-Employment Benefits

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Net defined benefit liability for post-employment benefits	**1,185**	**1,444**

The net defined benefit liability for post-employment benefits (pension obligations less plan assets) increased by €259 million in the reporting year to €1,444 million (previous year: €1,185 million). In this context, pension obligations increased due to the negative performance of the plan assets and to actuarial losses, particularly in Germany on account of adjustments to the mortality tables and a reduction in the discount rate.

17. Alternative Performance Measures

Throughout its financial reporting, Covestro uses alternative performance measures (APMs) to assess the business performance of the Group. These are not defined in the International Financial Reporting Standards (IFRSs). They should be considered a supplement to, not a replacement for, the performance measures determined in accordance with IFRSs. The calculation methods and reconciliation of the non-IFRS sales and earnings APMs to the figures reported in the financial statements are presented below. The calculation methods for the APMs may vary from those of other companies, thus limiting the extent of the overall comparability. These alternative performance measures should not be viewed in isolation or employed as an alternative to the financial indicators determined in accordance with IFRSs and presented in the consolidated financial statements for purposes of assessing Covestro's net assets, financial position and results of operations.

The following are the alternative performance measures relevant to the Covestro Group:

- EBITDA
- Return on capital employed (ROCE)
- Free operating cash flow (FOCF)
- Net financial debt

Covestro uses ROCE to assess profitability in the context of the company's internal management system. EBITDA is also calculated as an additional indicator of profitability. FOCF is a key factor in the presentation of the liquidity position that indicates the company's ability to generate a cash surplus and finance its activities. Net financial debt gauges the Group's financial condition and financing requirements.

EBITDA

EBIT is a measure used in the calculation of EBITDA. EBIT represents the share of the income after income taxes plus financial result and income tax expense attributable to Covestro's core business after elimination of the influence of variable tax rates and/or various financing activities.

Calculation of EBIT

	2017	2018
	€ million	€ million
Sales	**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	145	123
Other operating expenses	(60)	(66)
EBIT	**2,808**	**2,580**
Financial result	(150)	(104)
Income before income taxes	**2,658**	**2,476**
Income taxes	(641)	(647)
Income after income taxes	**2,017**	**1,829**

EBITDA is EBIT plus amortization and impairment losses on intangible assets, and depreciation and impairment losses on property, plant and equipment, less impairment loss reversals. In addition, EBITDA is adjusted for possible distortions arising from various depreciation/amortization methods and measurement options, and therefore represents earnings from operating business activities.

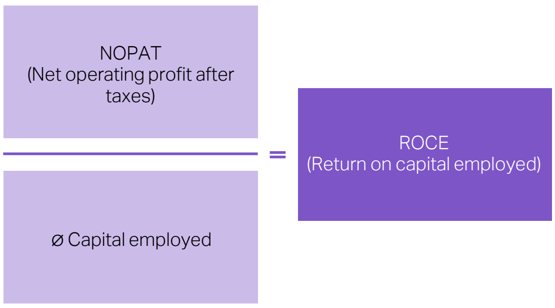
Calculation of EBITDA

	2017	2018
	€ million	€ million
EBIT	**2,808**	**2,580**
Depreciation, amortization, impairment losses and impairment loss reversals	627	620
EBITDA	**3,435**	**3,200**

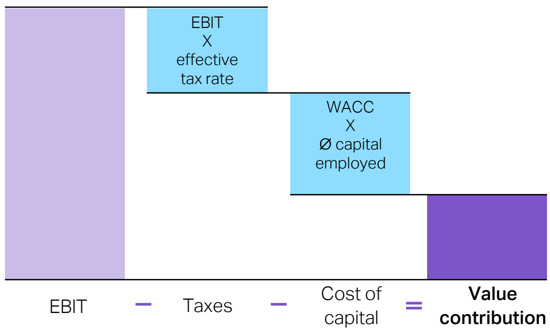
Return on capital employed (ROCE)

The foremost objective of the Covestro Group is to steadily increase enterprise value. Value is generated if Group earnings exceed the cost of capital. Covestro uses return on capital employed (ROCE) as the central value-based management metric. ROCE measures profitability and is calculated as the ratio of EBIT, adjusted for special items as needed, after taxes (NOPAT = net operating profit after taxes) to the average capital employed. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

Calculation of the Return on Capital Employed



Calculation of the Value Contribution



Calculation of average capital employed

The capital employed is the interest-bearing capital required by the company for its operations. It is calculated from operating noncurrent and current assets less non-interest-bearing liabilities. Non-interest-bearing liabilities include, for example, trade accounts payable and current provisions. The average capital employed is determined using the capital employed at the beginning and end of the relevant period.

Calculation of Average Capital Employed

	Dec. 31, 2016/Jan. 01, 2017[1]	Dec. 31, 2017[1]	Effects of IFRS 9 and IFRS 15	Jan. 01, 2018	Dec. 31, 2018
	€ million	€ million	€ million	€ million	€ million
Goodwill	264	253	–	253	256
Other intangible assets	97	81	–	81	77
Property, plant and equipment	4,655	4,296	–	4,296	4,409
Investments accounted for using the equity method	230	208	–	208	214
Other noncurrent financial assets[2]	9	8	–	8	8
Other receivables[3]	341	297	61	358	361
Deferred taxes[4]	187	224	4	228	256
Inventories	1,721	1,913	(33)	1,880	2,213
Trade accounts receivable	1,674	1,882	(18)	1,864	1,786
Claims for income tax refunds	119	138	–	138	55
Gross capital employed	**9,297**	**9,300**	**14**	**9,314**	**9,635**
Other provisions[5]	(886)	(755)	28	(727)	(721)
Other liabilities[6]	(207)	(215)	(65)	(280)	(234)
Deferred tax liabilities[7]	(157)	(160)	(6)	(166)	(153)
Trade accounts payable	(1,536)	(1,618)	37	(1,581)	(1,637)
Income tax liabilities	(73)	(235)	–	(235)	(279)
Capital employed	**6,438**	**6,317**	**8**	**6,325**	**6,611**
Average capital employed		**6,378**			**6,468**

[1] Reference information has not been restated, see note 2.1 "Financial Reporting Standards Applied for the First Time in the Reporting Period."
[2] Other noncurrent financial assets were adjusted for nonoperating and financial assets.
[3] Other receivables were adjusted for nonoperating and financial receivables.
[4] Deferred taxes were adjusted for deferred taxes from defined benefit plans and similar obligations.
[5] Other provisions were adjusted for provisions for interest payments.
[6] Other liabilities were adjusted for nonoperating and financial liabilities.
[7] Deferred tax liabilities were adjusted for deferred tax liabilities from defined benefit plans and similar obligations.

Calculation of the cost of capital

WACC reflects the expected return on the company's capital comprising both equity and debt. The cost of equity factors used in WACC are calculated by addition of the risk-free interest rate and the risk premium for an equity investment. Covestro uses the returns on long-term German government bonds as the risk-free interest rate. We derive this risk premium from capital market information for comparable listed companies. The cost of debt factors are calculated by addition of the risk-free interest rate and a risk premium on debt capital that Covestro calculates using the financing costs of comparable companies, less the tax benefit of interest incurred on borrowed capital. Calculation of the cost of capital generally has a long-term perspective; short-term fluctuations are evened out. The capital cost factor for the Covestro Group was 6.7% in fiscal 2018 (previous year: 6.6%).

Calculation of the net operating profit after taxes (NOPAT) and value contribution

The absolute value generation of the company is measured by the metric value contribution. This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

NOPAT is the operating result after taxes. Taxes are determined by multiplying the effective tax rate by EBIT.

Calculation of the Net Operating Profit After Taxes and Value Contribution

	2017	2018
	€ million	€ million
EBIT[1]	2,808	2,580
Effective tax rate[2]	24.1%	26.1%
Taxes	(677)	(673)
NOPAT	**2,131**	**1,907**
WACC	6.6%	6.7%
Average capital employed	6,378	6,468
Cost of capital	(421)	(433)
Value contribution	**1,710**	**1,474**
ROCE	**33.4%**	**29.5%**

[1] Adjusted EBITDA is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
[2] The calculation of the effective tax rate is presented in note 11 "Taxes."

Free operating cash flow (FOCF)

FOCF is the operating cash flow less cash outflows for additions to property, plant, equipment and intangible assets. Free operating cash flow serves in particular to pay dividends and interest and to repay debt.

Calculation of Free Operating Cash Flow

	2017	2018
	€ million	€ million
EBITDA	**3,435**	**3,200**
Income taxes paid	(510)	(574)
Change in pension provisions	17	26
(Gains) losses on retirements of noncurrent assets	(45)	(45)
Change in other working capital, other noncash items	(536)	(231)
Operating cash flows	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets	(518)	(707)
Free operating cash flow	**1,843**	**1,669**

Net financial debt

Net financial debt equals the sum of all financial liabilities less cash and cash equivalents, current financial assets and receivables from financial derivatives.

Net Financial Debt

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Bonds	1,495	996
Liabilities to banks	69	24
Liabilities under finance leases	223	193
Liabilities from derivatives	9	12
Receivables from derivatives	(15)	(12)
Financial liabilities	**1,781**	**1,213**
Cash and cash equivalents	(1,232)	(865)
Current financial assets	(266)	–
Net financial debt	**283**	**348**

18. Results of Operations, Financial Position and Net Assets of Covestro AG

Covestro AG is the parent company and strategic management holding company of the Covestro Group. The principal management functions for the entire Group are performed by the Board of Management. These include strategic planning for the Group, resource allocation and executive and financial management. Covestro AG's net assets, financial position and results of operations are largely determined by the business performance of its subsidiaries.

The financial statements of Covestro AG are prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG). The company, headquartered in Leverkusen (Germany), is registered in the commercial register of the Local Court of Cologne under No. HRB 85281.

There is a control and profit and loss transfer agreement between Covestro AG and Covestro Deutschland AG, Leverkusen. All profit not subject to a prohibition on transfer is transferred in full to Covestro AG at the end of the year, and losses are absorbed in full. Other retained earnings recognized during the term of the agreement must be released upon request by Covestro AG and used to compensate a net loss for the year or transferred as profit.

18.1 Results of Operations

Covestro AG Income Statements according to the German Commercial Code

	2017	2018
	€ million	€ million
Income from investments in affiliated companies	704	745
Interest expense	(14)	(18)
Other financial income	(4)	(6)
Net sales	26	23
Cost of services provided	(27)	(22)
General administration expenses	(64)	(79)
Other operating income	1	25
Other operating expenses	(3)	(1)
Income before income taxes	**619**	**667**
Income taxes	(131)	(171)
Net income	**488**	**496**
Retained earnings brought forward from prior year	–	3
Allocation to other retained earnings	(49)	(60)
Distributable profit	**439**	**439**

Covestro AG's result after tax amounted to €496 million in the 2018 fiscal year, mainly due to income from investments in affiliated companies totaling €745 million. Income from investments in affiliated companies is solely attributable to income from the control and profit and loss transfer agreement with Covestro Deutschland AG.

General administration expenses totaling €79 million mainly consisted of personnel expenses for the employees of the holding company and members of the Board of Management. The year-on-year increase of €15 million is mainly attributable to higher expenses for strategic projects. Other operating income includes primarily income under the existing Contribution, Indemnification and Post-Formation Agreement and income from the reversal of provisions for obligations under this agreement. The interest result includes interest expense of €14 million for the bonds issued. Other income and expense items had no notable effect on earnings. The result of operations was €667 million and led to income taxes of €171 million. Taking into account the profit brought forward from the previous year and an allocation of €60 million to other retained earnings, there was a distributable profit of €439 million.

Our goal for the financial year 2018 is to generate net income that will again enable our stockholders to adequately participate in the Covestro Group's earnings. The Board of Management and the Supervisory Board are proposing a dividend of € 2.40 per share carrying dividend rights for the 2018 fiscal year to the Annual General Meeting. That would amount to a year-on-year increase of € 0.20.

18.2 Net Assets and Financial Position

Covestro AG Statements of Financial Position according to the German Commercial Code

	Dec. 31,2017	Dec. 31,2018
	€ million	€ million
ASSETS		
Noncurrent assets	**1,767**	**1,767**
Intangible assets, property, plant and equipment	1	1
Financial assets	1,766	1,766
Current assets	**5,581**	**3,839**
Trade accounts receivables	19	25
Receivables from affiliated companies	5,505	3,762
Other assets	57	52
Deferred charges	**9**	**7**
Excess of plan assets over pension liability	**13**	**7**
Total assets	**7,370**	**5,620**
EQUITY AND LIABILITIES		
Equity	**5,686**	**4,444**
Capital stock	203	183
Treasury shares	(2)	–
Issued capital	201	183
Capital reserves	4,777	3,493
Other retained earnings	269	329
Distributable profit	439	439
Provisions	**140**	**160**
Provisions for pensions	2	3
Provisions for taxes	79	108
Other provisions	59	49
Liabilities	**1,544**	**1,016**
Bonds	1,500	1,000
Trade accounts payables	7	10
Payables to affiliated companies	31	1
Other liabilities	6	5
Total equity and liabilities	**7,370**	**5,620**

Covestro AG had total assets of €5,620 million as of December 31, 2018. The net assets and financial position of Covestro AG are dominated by its role as a holding company in managing subsidiaries and financing corporate activities. This is primarily reflected in the levels of financial assets (31.4% of total assets) and receivables from (66.9% of total assets), and payables to, Group companies.

Receivables from affiliated companies declined by €1,743 million, mainly due to a corresponding decrease in an intercompany loan to Covestro Deutschland AG.

All receivables and other assets had maturities of less than one year.

Property, plant, equipment and intangible assets were of secondary importance. At €28 million, current other receivables, including deferred income, were also immaterial in relation to total assets. Other assets of €52 million mainly included income tax and VAT receivables.

Covestro AG's equity amounted to €4,444 million (previous year: €5,686 million). This corresponds to an equity ratio of 79.1% (previous year: 77.2%). Changes in equity in fiscal year 2018 chiefly related to share buy-backs and the retirement of 19,500,000 no-par-value shares. In the 2018, Covestro AG acquired 18,260,077 treasury shares at a total cost of €1,310 million (excluding transaction costs). Covestro AG's capital reserves decreased accordingly. On December 3, 2018, the Board of Management had resolved to retire 19,500,000 shares. The Company's Articles of Incorporation were amended accordingly on December 7, 2018. This was set against an allocation of €60 million to retained earnings.

Moreover, the payment of dividends for fiscal 2017 in the amount of €436 million reduced equity.

Equity is set against provisions amounting to €160 million and other liabilities of €1,016 million. The 2016–2018 bond of €500 million was repaid by the due date in March 2018.

Provisions were made up of provisions for pensions and other post-employment benefits (€3 million), tax provisions (€108 million), and other provisions (€49 million). The bonds have the following maturities: €500 million is due for repayment within one to five years and €500 million is due in 2024. All other liabilities are due within one year.

Report on Future Perspectives and on Opportunities and Risks

19. Economic Outlook

Global economy

In 2019, a year marked by uncertainty, the global economy is projected to grow at a slightly slower rate than in the previous year. The key reasons for this development include increasing protectionism causing adverse effects on global supply chains, the slowdown in China's growth, geopolitical risks in the Middle East and political uncertainties in the eurozone.

In the European Union (EU), growth is anticipated to drop to approximately 1.3%. Despite domestic demand remaining solid thanks to further declines in unemployment figures and nonrestrictive fiscal policy, foreign economic factors such as a continued trade conflict with the United States and the ongoing negotiations on the United Kingdom's exit from the EU will have a dampening effect. These factors have an impact on export-oriented business in Germany, in particular; weaker growth of around 1.0% is therefore expected.

The U.S. economy's generally positive performance is expected to continue in 2019, driven by factors including a reduction in corporate/income taxes. However, further wage increases and stepped up import restrictions carry the risk of higher inflation rates in the medium term and the start of an economic downturn.

China's economy should continue to grow relatively robustly in 2019 – although at a somewhat slower pace than in 2018. There is also the increasing emergence of the conflicting goals of reducing macroeconomic imbalances and attempting to mitigate the negative effects of the economic dispute with the United States.

Economic Outlook

	Growth[1] 2018	Growth[1] forecast 2019
	%	%
World	**+3.1**	**+2.8**
European Union	+1.9	+1.3
of which Germany	+1.5	+1.0
NAFTA	+2.7	+2.4
of which United States	+2.9	+2.5
Asia-Pacific	+4.9	+4.7
of which China	+6.6	+6.3

[1] Real growth of gross domestic product, source: IHS (Global Insight), as of February 2019

Main customer industries[7]

In 2019, we anticipate the global automotive industry to grow somewhat, driven by a recovery in Asia. Our global growth forecast for this year is 1%.

For 2019, we anticipate that the global construction industry will see stable growth of slightly over 2% compared with the previous year. A continued recovery in Eastern Europe and Latin America, a stable investment climate in North America and the ongoing positive performance in Asia will contribute to this development despite significant weakening in Western Europe.

Growth in the global electrical, electronics and household appliances industry is predicted to weaken considerably in 2019 and to come in at only slightly above 2%. Equal growth is forecast for the industrialized and emerging economies.

We expect the global furniture industry to expand at around 3% in 2019. The main driver here continues to be the Asia-Pacific region with growth of approximately 4%. For Europe and Latin America, we also project a positive trend at the previous year's level. Following stagnation with zero growth in 2018, we anticipate that North America will once again see a positive growth rate of approximately 1%.

[7] Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), Oxford Economics

20. Forecast for Key Data

Forecast

	2018	Forecast 2019
Core volume growth	+1.6%	Low-to-mid-single-digit percentage increase
Free operating cash flow	€1,669 million	Between €300 million and €700 million
ROCE	+29.5%	Between 8% and 13%

Covestro Group

The following forecast for the 2019 fiscal year is based on the business development described in this Annual Report and takes into account the following potential risks and opportunities:

The Board of Management of Covestro AG presumes that despite an increasingly challenging market environment, Covestro will maintain its profitable growth course in 2019 and achieve a premium above the costs of capital.

We expect core volume growth in the low-to-mid-single-digit-percentage range. This trend is projected for both the Covestro Group and for the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments.

We expect free operating cash flow (FOCF) to be between €300 million and €700 million in fiscal year 2019. For the Polyurethanes segment, we anticipate an increase in cash outflows for additions to property, plant, equipment and intangible assets which the expected operating cash flow will be insufficient to offset. We also expect FOCF to decline in the Polycarbonates segment, although the trend here is likely to be much more positive than for the Group overall. For the Coatings, Adhesives, Specialties segment, we expect FOCF around the prior-year level.

In 2019, we expect ROCE between 8% and 13%.

Covestro AG

The earnings of Covestro AG, as the parent company of the Covestro Group, largely comprise the earnings of that company's subsidiaries. The earnings of the subsidiaries in Germany, especially Covestro Deutschland AG, are transferred to Covestro AG under profit and loss transfer agreements. The earnings of Covestro AG are therefore expected to reflect the business development anticipated in the Covestro Group. We want our stockholders to adequately participate in the Covestro Group's earnings for fiscal 2019. We aim to increase the dividend annually, or at least to keep it at the previous year's level. For 2019, we expect a net income of Covestro AG that will enable us to pay a corresponding dividend. The Board of Management and the Supervisory Board are proposing a dividend of €2.40 per share carrying dividend rights for the 2018 fiscal year to the Annual General Meeting.

21. Opportunities and Risks Report

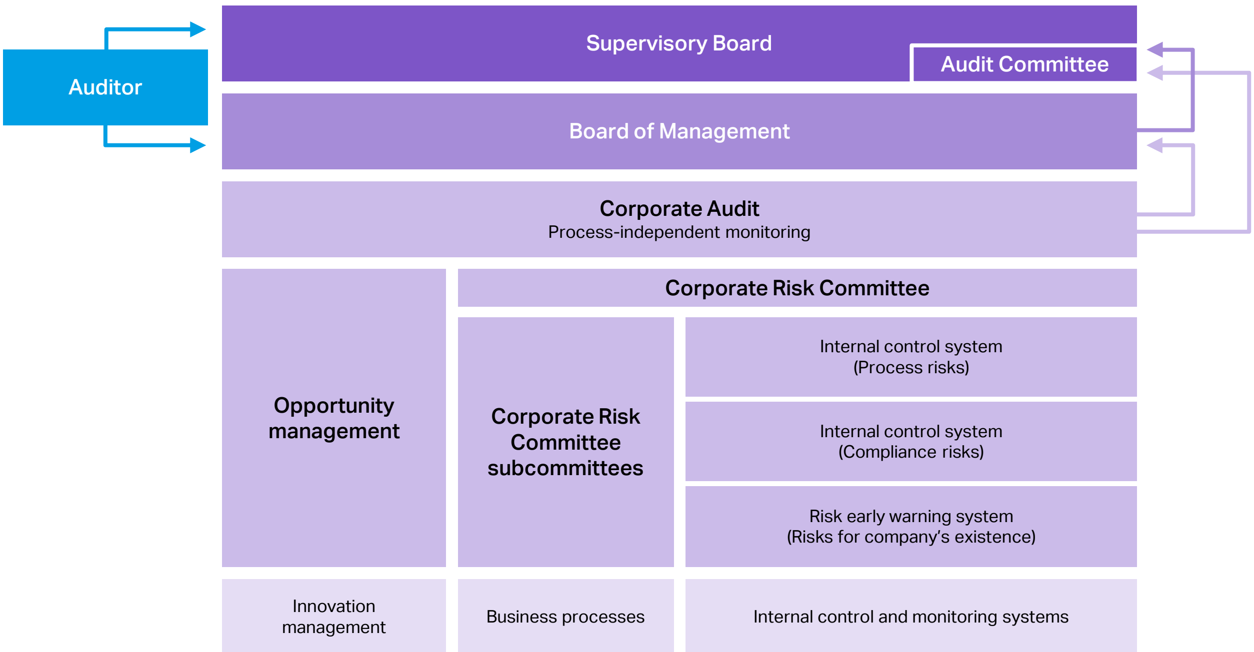
As a company with global operations, Covestro is exposed to opportunities and risks on a daily basis. Addressing these opportunities and risks therefore represents an integral part of our business operations. We regard a risk as a development or event in or outside the company that could lead to a negative deviation from forecasts or the Group's targets. Conversely, an internal or external development or event that could cause a positive change in forecasts or targets is considered an opportunity.

No risks that could endanger the Covestro Group's continued existence are currently identifiable.

Group-wide opportunities and risk management system

Conscientious management of risks and opportunities is part of responsible corporate governance and forms the basis for sustainable growth and financial success. This includes the ability to systematically identify and take advantage of opportunities while avoiding risks to the company's success. The entrepreneurial decisions we make daily in the course of business processes are based on balancing opportunities and risks. We therefore regard the management of our opportunities and risks as an integral part of our business management system rather than as the task of a specific organizational unit.

Opportunities and risk management system



Our opportunity and risk management begins with strategy and planning processes, from which relevant external and internal opportunities and risks of an economic, ecological or social nature are derived. Opportunities and risks are identified by observing and analyzing trends along with macroeconomic, industry-specific, regional and local developments. The identified opportunities and risks are subsequently evaluated and incorporated into our strategic and operational processes. We attempt to avoid or mitigate risks by taking appropriate countermeasures, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable. At the same time, we strive to take maximum advantage of opportunities by incorporating them into our entrepreneurial decisions as appropriate. We consciously accept and bear manageable and controllable risks that are in reasonable proportion to the anticipated opportunities. We regard them as the general risks of doing business. Opportunities and risks are continuously monitored using indicators so that, for example, changes in the economic or legal environment can be identified at an early stage and suitable countermeasures can be initiated, if necessary.

To enable the Board of Management and the Supervisory Board to monitor material business risks as legally required, the following systems are in place: an internal control system ensuring proper and effective financial reporting pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code (HGB); a compliance management system; and a risk early warning system pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act (AktG).

The various management systems are based on different risk types, risk levels and timelines. Different processes, methods and IT systems are therefore applied to identify, evaluate, manage and monitor risks. The principles underlying the various systems are documented in Group policies that are integrated into our central document control processes and are accessible to all employees via the Covestro intranet. The overall responsibility for the effectiveness and appropriateness of the system as a whole lies with the Chief Financial Officer.

The various systems are described below.

Internal control system for (Group) accounting and financial reporting (Report pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code)

The purpose of our internal control system (ICS) is to ensure proper and effective accounting and financial reporting in accordance with Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code.

The ICS is designed to guarantee timely, uniform and accurate accounting for all business processes and transactions based on applicable statutory regulations, accounting and financial reporting standards, and the internal Group regulations that are binding on all consolidated companies.

The ICS concept is based on the Committee of the Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework (2013) and the Control Objectives for Information and Related Technology (COBIT) framework and addresses the risk of misreporting of the consolidated financial statements. Risks are identified and evaluated, and steps are taken to counter them. Mandatory ICS standards such assystem-based and manual reconciliation processes and functional separation have been derived from these frameworks and promulgated throughout the Covestro Group by Group Accounting.

The management of each Covestro Group company holds responsibility for implementing the ICS standards at the local level. Bayer Shared Service Centers continued to handle certain activities in the first half of 2018 on account of several fixed-term transitional agreements in the scope of the carve-out. These services are no longer used, however, and all accounting activities have been handled in-house since May 2018.

The effectiveness of the ICS processes for accounting and financial reporting is evaluated on the basis of a cascaded self-assessment system that starts with the persons directly involved in the processes, then involves the principal responsible managers and ends with the Board of Management. In addition, an external audit is performed to ensure and attest to its proper functioning. An IT system in use throughout the Covestro Group ensures the uniform and audit-proof documentation and transparent presentation of the risks, controls, and effectiveness evaluations associated with all ICS-relevant business processes. It should generally be noted that, however carefully designed, an internal control system cannot provide absolute assurance that material misstatements in the accounting will be avoided or identified in a timely manner.

The Chief Financial Officer of Covestro AG has confirmed the criteria and the effective functioning of the internal control system for accounting and financial reporting for fiscal 2018.

Internal control system to ensure compliance

Compliance risks are systematically identified and assessed as part of Covestro's Group-wide risk management. Risk owners assess the compliance risks that have been identified. A risk matrix is used to define focal points of compliance tasks at Covestro. The findings of a risk-based analysis enabled Covestro to identify three key topics: antitrust law, corruption, and foreign trade law. The General Counsel /Chief Compliance Officer is the risk owner responsible for the risks of "breaches of antitrust law" and "corruption"; the Export Control Officer is the risk owner of "breaches of foreign trade law." With respect to corruption, areas including gifts/invitations, contributions/sponsoring and working relationships with certain business partners such as customs officials/sales agents were identified as being especially risk-relevant.

Many controls have been implemented at both the Group-wide and local levels to reduce the number of compliance risks. To the extent possible, we integrate the compliance controls into our internal control system. In the reporting period, the controls aimed at preventing corruption were globally standardized and, where necessary, additional controls were integrated into business processes.

The effectiveness of the compliance controls is evaluated – as are the ICS processes for accounting and financial reporting – on the basis of a cascaded self-assessment system. The results of the effectiveness evaluations are documented in the global system for the ICS processes. In addition, Corporate Audit carries out dedicated compliance checks

Risk early warning system
(Report pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act)

Covestro implemented a structured process for the early identification of any potentially disadvantageous developments that could have a material impact on the company or endanger its continued existence. This process satisfies the legal requirements regarding an early warning system for risks pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act. Covestro's risk management process is based on the international risk management standard COSO II Enterprise Risk Management – Integrated Framework (2004). A central unit defines, coordinates, and monitors the framework and standards for this risk early warning system.

Throughout the year, various global subcommittees provide new and updated information about identified risks. The Covestro Corporate Risk Committee meets four times a year to review the risk landscape as well as the various risk management and monitoring mechanisms that are in place, and to take any necessary measures.

Risks are evaluated using estimates of the potential impact, the likelihood of their occurrence and their relevance for our external stakeholders. All material risks and the respective countermeasures are documented in a companywide database. The risk early warning system is reviewed regularly over the course of the year. Significant changes must be promptly entered in the database and reported to the Board of Management. In addition, a report on the risk portfolio is submitted to the Audit Committee several times a year and to the Supervisory Board at least once a year. The following matrix illustrates the financial and indirect financial criteria for rating a risk as high, medium or low.

Rating Matrix

Indirect financial impact[1]	and/or	Accumulated impact[1] (€ million)	Likelihood of occurrence within 1 year				
			Very low	Low	Medium	High	Very high
Critical		> 1,100	Medium	Medium	High	High	High
Significant		> 285 – 1,100	Medium	Medium	Medium	High	High
High		> 115 – 285	Low	Medium	Medium	Medium	High
Moderate		≥ 60 – 115	Low	Low	Medium	Medium	Medium

Weighted risk occurrence: Low, Medium, High

[1] An individual risk that could have both a financial and indirect financial impact of different severities and is always classified based on the higher level of risk.

Criteria of the Classification of Indirect Financial Impact

Indirect financial impact			
Moderate	High	Significant	Critical
Moderate effect on achieving outcome objectives/national reporting	High effect on achieving outcome objectives/national reporting	Significant effect on achieving outcome objectives/major outlets reporting internationally	Critical effect on achieving outcome objectives/major outlets constantly reporting internationally

Process-independent monitoring

The effectiveness of our management systems is audited and evaluated at regular intervals by the Corporate Audit unit, which performs an independent and objective audit function focused on verifying compliance with laws and policies. Corporate Audit also supports the company in achieving its goals by systematically evaluating the efficiency and effectiveness of governance, risk management and control processes, and helping to improve them. The selection of audit targets follows a risk-based approach. Corporate Audit performs its tasks according to internationally recognized standards and delivers reliable audit services. This was confirmed in an external audit conducted in accordance with Auditing Standard 983 of the Institute of Public Auditors in Germany (IDW) in fiscal 2017. A report on the internal control system and its effectiveness is presented annually to the Audit Committee of the Supervisory Board.

Risks in the areas of occupational health and safety, plant safety, environmental protection and product quality are assessed through specific HSEQ (health, safety, environment and quality) audits.

In addition, the external auditor, as part of its audit of the annual financial statements, assesses the basic suitability of the early warning system for identifying at an early stage any risks that could endanger the company's continued existence so that suitable countermeasures can be taken. The auditor also reports at regular intervals to the Board of Management and the Supervisory Board on the results of the audit and any weaknesses identified in the internal control system. Audit outcomes are also taken into account in the continuous improvement of our management processes.

Opportunities and risks

Overall assessment of opportunities and risks

The overall opportunity position and overall risk position facing the Group have not changed as against the previous year. The risks reported in the following do not endanger the company's continued existence, nor could we identify any risk interdependencies that could combine to endanger the company's continued existence.

Based on our product portfolio, our know-how and our innovation capability, we are confident that we can use the opportunities resulting from our entrepreneurial activity and successfully master the challenges resulting from the risks stated below.

Opportunities and risks in general and in the company's business environment

Risks are outlined below that have material effects on the business situation, net assets, financial position, and results of operations of our Group. In this context, risks are deemed material if the potential loss to Covestro is estimated at €60 million or more, or – regardless of their likelihood of occurrence – they have at least a moderate potential indirect financial impact. The likelihood of occurrence of the risks is used in internal control to define focus areas for the Corporate Risk Committee. The risks are more highly aggregated in this report than in our internal documentation. The following chart shows the levels of risk allocated to the individual risks within each category. The order in which the risks are listed does not imply any order of significance.

Risk Categories

	Weighted risk occurrence		
	Low	Medium	High
Business environment			
Competition	●	●	
Cooperations/acquisitions	●		
Market growth	●	●	
Regulations/policies	●	●	
Company-specific environment			
Product stewardship	●	●	
Procurement	●	●	
Production and supply chain	●	●	
Employees	●	●	
Information technology	●	●	
Law and compliance	●	●	

Business environment

General economic conditions worldwide and, in particular, in the geographic regions in which Covestro operates are a key factor affecting the company's earnings given that their effect on the industries in which Covestro's direct and indirect customers operate impacts demand for our company's products.

Negative economic developments typically have a negative impact on the sales markets for our products, which usually results in decreases in sales volumes and adversely impacts earnings. However, the extent of the impact of economic developments on sales volumes and earnings also depends on capacity utilization rates in the industry, which in turn, depend on the balance between supply and demand for the industry's products. Decreases in demand lead to lower sales volumes and, ultimately, to reduced capacity utilization, which negatively impacts margins. Conversely, a positive economic environment characterized by growth and upward trends usually leads to improved business success.

Historically, the markets for most of our products have experienced periods of tight supply, causing prices and profit margins to increase. Periods of significant capacity additions, however, resulted in oversupply and declining prices and profit margins. The cycles in demand are often caused by capacity additions of new world-scale production facilities or the expansion of existing production facilities, which are necessary to create or sustain economies of scale in the industry segments, and the decline of industry-wide utilization rates that often follows capacity additions.

An economic downturn, changes in competitors' behavior or the emergence of new competitors can lead to greater competition and, as a result, overcapacities in the market or increased pressure on prices.

The international nature of Covestro's business exposes it to substantial changes in economic, political and social conditions, and the resulting statutory requirements of the countries in which Covestro operates. The associated opportunities and risks can have both a positive and negative effect on the company's business and significantly influence its prospects.

Where it appears strategically advantageous, we supplement our organic growth by acquiring companies or parts of companies. Exploiting potential synergies or economies of scale can positively impact the company's success. However, failure to successfully integrate a newly acquired business or unexpectedly high integration costs could jeopardize the achievement of qualitative or quantitative targets and adversely impact earnings. To avoid this, both the due diligence and integration processes are supported by teams of experts. Due diligence also includes, for example, reviewing risk-relevant factors such as compliance with applicable environmental regulations and occupational health and safety standards at production sites.

The main conditions for economic success in developing countries are political stability, prosperity and a secure income. Based on the improved economic fundamentals in developing countries, we expect that the rising standard of living will lead to higher sales figures and better business prospects for our products in the medium to long term.

Further opportunities and risks may also arise if actual market developments vary from those we predict in section 19 "Economic Outlook." Where macroeconomic developments deviate from forecasts, this may either positively or negatively impact our sales and earnings expectations. Continuous analysis of the economic environment and of economic forecasts enables us to utilize the identified opportunities and to mitigate risks by adjusting our business strategy.

Innovation

We continually analyze global trends and develop innovative solutions to address them, thereby mastering the challenges and taking advantage of the opportunities that these trends provide.

One example of the opportunities created by innovation is additive manufacturing, also known as 3D printing. This is a new market with considerable growth potential for our products. Covestro is an established player in the polymer industry segment and has in-depth technological expertise in this area. This makes us well positioned to generate added value for our company through advances in additive manufacturing.

Customers are increasingly choosing sustainable products as a result of a growing environmental awareness and interest in environmental protection. A key focus of Covestro's strategy is sustainability and efficient production. Our product portfolio offers sustainable solutions for different areas of everyday life. We therefore see an opportunity here to expand our relevant market shares and to grow in this segment.

The finite nature of natural resources and efforts to protect the climate are boosting the demand for innovative products and technologies that reduce resource consumption and lead to lower emissions. This trend is being reinforced by increasingly stringent regulatory requirements and growing consumer awareness for the need to use resources sustainably. Covestro is therefore developing new materials that help to raise energy efficiency and reduce emissions. For example, the polyurethane manufactured by the company is used in the construction industry for thermal insulation, thus improving the positive energy balance, while its polycarbonate is used in the automotive industry to reduce vehicle weight and thus fuel consumption.

Ongoing technological advancements are changing the world we live in and the way we do business. By utilizing cutting-edge digital technologies, we expect to holistically add value across the value chain by optimizing supply chain, leveraging growth, and developing new business models.

Product stewardship

The Covestro Group is exposed to the risk of negative publicity, press speculation, and potential or actual legal proceedings concerning its business, which may harm its reputation. The development of a negative social perception of the chemical industry in general or Covestro's processes, products or external communications in particular could also have a negative impact on the company. The incorrect use and handling of our products by third parties can also harm the company's reputation.

In addition, concerns about product safety and environmental protection could influence public perceptions regarding Covestro's products and operations, the viability of certain products, its reputation, and the ability to attract and retain employees. Due to the technical expertise required to fully understand the possible impacts of the chemical constituents of our products, the company's reputation may suffer due to claims that such compounds are of a harmful nature, even if these claims can be disproved by experts. Such statements may lead to changes in consumer preferences or additional government regulations even before any harm is scientifically substantiated and possibly despite scientific evidence to the contrary.

Procurement

Our Supplier Code of Conduct sets forth our sustainability principles and explains what we expect from our partners along the value chain. The Code requires that our suppliers observe environmental regulations as well as occupational health and safety rules, respect human rights and therefore, for example, not employ child labor in any form. Violations of the Code may harm our company's reputation. Through supplier assessments and audits, we verify whether our partners along the supply chain actually implement and adhere to our Code of Conduct. Covestro's Supplier Code of Conduct is based on the principles of the United Nations Global Compact and our human rights position.

Covestro requires significant quantities of energy and petrochemical feedstocks for production processes. Procurement prices for energy and raw materials may fluctuate significantly due to market conditions or legislation. Experience from the past has shown that higher production costs cannot always be passed on to our customers through price adjustments. Conversely, lower raw materials prices that do not directly reduce the selling price by the full amount can lead to improved margins.

Important raw materials purchased based on long-term supply agreements and an active supplier management to minimize procurement-related risks such as supply shortages or 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 risk of fluctuating energy prices.

Production and supply chain

We place great importance not only on product safety but also on protecting our employees and the environment. Risks associated with the production, filling, storage or shipping of products are mitigated through integrated quality, health, environmental protection and safety management. The materialization of such risks may result in personal injury, property and environmental damage, loss of production, business interruptions as well as liability for compensation payments.

Covestro uses large quantities of hazardous substances, generates hazardous wastes and emits wastewater and air pollutants in its production operations. Consequently, its operations are subject to extensive environmental, health and safety (EHS) laws, regulations, rules and ordinances at the international, national and local levels in multiple jurisdictions. The company must dedicate substantial resources to complying with these EHS regulations and the additional voluntary commitments. Costs relating to the implementation of and compliance with EHS requirements are part of Covestro's operating costs and must therefore be covered by the prices at which the company is able to sell its products. Competitors of Covestro that are not affected by equually strict EHS requirements to the same extent may have lower operating costs and, as a consequence, their products may be priced lower than those of Covestro.

Operations at our sites may be disrupted by natural disasters, fires/explosions, sabotage, or supply shortages for our principal raw materials or intermediates. To the extent possible and economically feasible, we mitigate these risks by distributing production for certain products among multiple sites and by building up safety stocks. Furthermore, an emergency response system has been implemented for all our production sites as a mandatory component of our HSEQ management. It is aimed at protecting employees, neighbors, the environment and production facilities from the risks described. The Group Regulation "Security and Crisis Management" forms the basis for this.

Covestro operates in markets with a relatively balanced supply and demand situation. However, in the event of planned or unplanned closures, interruptions or even the elimination of one of our competitors, Covestro may have the opportunity to take over customers and cover their demand.

Increased ecological awareness creates opportunities for Covestro in two ways. On the one hand, the development of innovative materials for our customers opens up market potential. On the other hand, if we succeed in increasing the energy efficiency of our own production processes, we can mitigate environmental impacts and achieve cost savings at the same time. By developing new production technologies and applying internationally recognized energy management systems, we aim to help meet increasing environmental requirements, further reduce emissions and waste, and increase energy efficiency. In this way, we not only contribute to sustainable climate protection and the conservation of natural resources, but also achieve cost and competitive advantages.

Organic growth through investment may involve risks as it relates to the overall project scope, location, and timing. These risks are addressed through established processes that involve a variety of internal and external stakeholders. A specific risk is posed by the transfer of services formerly provided by Bayer companies to other external partners in order to plan, construct and coordinate capital investment projects. This risk is being addressed through a targeted project focusing on this shift. A robust investment assessment process helps to ensure that we are capitalizing on organic growth opportunities at the right time. These projects are reviewed throughout the project timeline so that any potential changes in the market situation are considered, enabling us to react in a timely manner, if necessary.

Employees

Skilled and dedicated employees are essential for the company's success. There is keen competition among companies for highly qualified personnel and employees in key positions in particular, especially in countries with full employment. If we are unable to recruit a sufficient number of employees in these countries and retain them within Covestro, this could have significant adverse consequences for the company's future development.

We are planning appropriate employee recruitment and development measures based on the analysis of future requirements. We aim to convince our target groups of the advantages of working for Covestro through comprehensive human resources marketing, including an employer branding campaign. Our human resources policies are based on the principles enshrined in our human rights position, the Corporate Compliance Policy and our corporate values. Essential elements include competitive compensation containing performance-related components as well as an extensive range of training and development opportunities. In addition, our focus on diversity enables us to tap the full potential of the employment market.

Covestro depends on good relations with its employees, unions and employee representatives to avoid industrial action, implement restructurings and amend existing collective agreements, and to negotiate reasonable and fair wages as well as other key working conditions.

Information technology

Business and production processes as well as the internal and external communications of the Covestro Group are increasingly dependent on global IT systems. A significant technical disruption or failure of IT systems could severely impair our business and production processes. Technical precautions such as data recovery and continuity plans are defined and continuously updated in close cooperation with our internal IT organization.

The confidentiality of internal and external data is of fundamental importance for Covestro. A loss of data confidentiality, integrity or authenticity could lead to manipulation and/or the uncontrolled outflow of data and expertise. We have measures in place to counter these risks, including a sophisticated authorization system.

Furthermore, a Group-wide committee was established to determine the fundamental strategy, architecture and IT safety measures for the Covestro Group. These measures are designed to guarantee optimum protection based on state-of-the-art technology.

Law and compliance

Ethical conduct is a matter of essential importance for society. Many stakeholders evaluate companies according to whether they conduct themselves not just “legally” but also “legitimately.” The Covestro Group is commited to sustainable development in all areas of its commercial activity. Any violations of this voluntary commitment can result in adverse media reporting and thus lead to a negative public perception of the Covestro Group. We counter this risk through responsible corporate management that is geared toward generating not only economic but also ecological and societal benefit.

The Covestro Group is exposed to numerous risks from legal disputes or proceedings to which we are currently a party or that could arise in the future, particularly in the areas of product liability, competition and antitrust law, patent law, tax law and environmental protection.

Investigations of possible legal or regulatory violations, such as potential infringements of antitrust law or the use of certain marketing and/or distribution methods, may result in the imposition of civil or criminal penalties – including substantial monetary fines – and/or other adverse financial consequences, harm Covestro’s reputation and ultimately hamper our commercial success.

Legal proceedings currently considered to involve material risks are described in note 26 under “Legal Risks” in the Notes to the Consolidated Financial Statements.

Financial opportunities and risks

The Covestro Group is exposed to liquidity risks, foreign currency and interest-rate opportunities and risks, credit risks and risks resulting from obligations for pensions and other post-employment benefits. Appropriate processes to manage financial opportunities and risks have been established and documented. One component of this is financial planning, which serves as the basis for establishing liquidity needs and foreign currency risk. Financial planning comprises a planning horizon of 12 months and is regularly updated.

The section below presents the financial risks material to the Covestro Group – independent of their likelihood of occurrence.

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.

Foreign currency opportunities and risks

For the Covestro Group, foreign currency opportunities and risks result from changes in exchange rates and the related changes in value.

Material receivables and payables in liquid currencies from operating and financial activities are fully hedged through forward exchange contracts.

Anticipated foreign currency exposures were not hedged in the reporting year since they did not exceed the limit defined for the Group. These exposures are also hedged using forward exchange contracts if the foreign currency risk increases significantly.

Interest rate opportunities and 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.

Credit risks

Credit risks arise from the possibility that the value of receivables or other financial assets of the Covestro Group may be impaired because counterparties cannot meet their payment or other performance obligations.

To manage credit risks from receivables, credit managers are appointed who regularly analyze customers' creditworthiness and set credit limits. The Covestro Group does not conclude master netting agreements with its customers for nonderivative financial instruments. Here, the total value of the financial assets represents the maximum credit risk exposure. In the case of derivatives, positive and negative market values may be netted under certain conditions.

Risk to pension obligations from capital market developments

The Covestro Group has obligations to current and former employees related to pensions and other post-employment benefits. Changes in relevant measurement parameters such as interest rates, mortality rates and salary increase rates may raise the present value of these obligations, resulting in increased costs for pension plans. A proportion of the Covestro Group's pension obligations is covered by plan assets. Declining or even negative returns on the investment of the plan assets may adversely affect their future fair value. Both these effects may negatively impact the company's earnings and may necessitate additional payments by the company.

We address the risk of market-related fluctuations in the value of plan assets through balanced strategic investments and by constantly monitoring investment risks with regard to obligations.

Corporate Governance Report

Covestro places great importance on responsible corporate governance. This promise to stockholders, business partners and employees is based on our commitment to the German Corporate Governance Code (GCGC) and Articles of Incorporation that reflect these standards.

The Board of Management and Supervisory Board provide information pertaining to corporate governance in this Report pursuant to Section 3.10 of the GCGC, including a Declaration on Corporate Governance for Covestro AG pursuant to Section 289f and for the Covestro Group pursuant to Section 315d of the German Commercial Code (HGB). The contents of the Corporate Governance Report also comprise part of the Group Management Report. Pursuant to Section 317 (2), Sentences 4 and 5 of the German Commercial Code, the disclosures in the Declaration on Corporate Governance are not included in the audit. In addition, the Compensation Report is part of the Corporate Governance Report.

22. Declaration on Corporate Governance

In the reporting year, the Board of Management and Supervisory Board again addressed the matter of complying with the German Corporate Governance Code and the resulting Declaration of Conformity was issued in December 2018 and posted on Covestro's website.

In the year under review, Covestro AG was in compliance with all recommendations of the "Government Commission on the German Corporate Governance Code" as published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette (Bundesanzeiger), and will remain so in the future.

Declaration of Conformity (in accordance with the German Corporate Governance Code)

Declaration by the Board of Management and Supervisory Board concerning the German Corporate Governance Code (February 7, 2017 version) pursuant to Section 161 of the German Stock Corporation Act (AktG)

Since the last Declaration of Conformity as of December 2017, Covestro AG has complied with all recommendations of the German Corporate Governance Code in the version of February 7, 2017, and will comply with them in the future.

Leverkusen, December 2018

For the Board of Management

Dr. Markus Steilemann

For the Supervisory Board

Dr. Richard Pott

Composition, duties and activities of the Board of Management and Supervisory Board

Board of Management

Duties and activities of the Board of Management

The Board of Management runs the company on its own responsibility with the goal of sustainably increasing the company's enterprise value and achieving defined corporate objectives. In doing so, it takes into account the interests of stockholders, employees and other stakeholders. The Board of Management performs its tasks according to the law, the Articles of Incorporation and the Board of Management's rules of procedure, and the recommendations of the German Corporate Governance Code as stated in the Declaration of Conformity. It ensures compliance with the law and internal company policies, and works with the company's other governance bodies in a spirit of trust.

The Board of Management defines the long-term goals and strategies for the company and sets forth the principles and policies for the resulting corporate policies. It coordinates and monitors the most important activities, defines the company's portfolio, develops and deploys managerial staff, allocates resources and decides on the financial steering and reporting of the Covestro Group.

The members of the Board of Management bear joint responsibility for running the business as a whole. However, the individual members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board. The allocation of duties among the members of the Board of Management is defined in a written schedule appended to its rules of procedure.

The full Board of Management makes decisions on all matters of fundamental importance and in cases where a decision of the full Board is prescribed by law or otherwise mandatory. The rules of procedure of the Board of Management contain a list of topics that must be dealt with and resolved by the full Board.

Board of Management meetings are held regularly and are convened by the Chair of the Board of Management. Any member of the Board of Management may also demand that a meeting be convened, notifying the other members of the matter for discussion. The Board of Management makes decisions by a simple majority of the votes cast, except where unanimity is required by law. In the event of a tie, the Chair has the casting vote.

According to the Board of Management's rules of procedure and schedule of duties, the Chair bears particular responsibility for coordinating all Board of Management areas. The Chair represents the Board of Management and Covestro AG and the Group in dealings with the public and other third parties.

Composition of the Board of Management

Under the schedule of duties, each Board member is assigned responsibility for particular duties and areas. The Board of Management members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board. The Chair of the Board of Management is appointed by the Supervisory Board.

Objectives and concept for the composition of the Board of Management

Assisted by the Human Resources Committee and the Board of Management, the Supervisory Board arranges long-term succession planning for individual Board of Management members. The Supervisory Board conducts a systematic process for selecting candidates for the Board of Management, while following the recommendations of the German Corporate Governance Code. In accordance with Covestro's corporate values, it also observes the diversity principle, i.e. balancing the Board's composition in terms of age, educational and professional background as well as a balanced ratio of male and female members. The Board of Management as a whole should represent a variety of backgrounds and possess extensive experience in corporate strategy, innovation, production and technology, marketing and sales, finance, leadership and sustainability management.

When filling specific Board of Management positions, the Supervisory Board also develops a skills profile that is based on the diversity criteria and used to evaluate candidates from within and outside the company. Decisions are made in the company's interest and taking into account all of the circumstances of each individual case.

Implementation status of the objectives

Covestro's Board of Management currently has three members. The goals regarding age structure and function-specific expertise were generally met in fiscal year 2018. In filling the position of CFO, the Board of Management met the education and professional background requirements. The Board of Management's members ranged in age from 46 to 56 in fiscal year 2018. As a whole, the Board of Management features members with a range of different educational backgrounds. In particular, they possess many years of experience in the following areas: engineering, physics and chemistry, business administration and finance. The members of the Board of Management have extensive professional experience in Germany and abroad as well as in the petroleum and chemical industries. In the course of their careers, they have held leadership positions in marketing and sales, corporate strategy, production and technology, and finance, among others, and possess extensive experience in human resources and project management.

Promotion of equal participation of women and men in leadership positions

The German Law on equal participation of women and men in leadership positions in the private and public sectors of May 24, 2015, requires certain companies in Germany to define target quotas for appointing women to their Supervisory Boards, and Boards of Management and the two management levels below, and to establish dates by which this quota is to be achieved in each case.

In accordance with Section 96 Paragraph 2 of the Stock Corporation Act, the Supervisory Board of a company which is both listed and codetermined should be composed of at least 30% women and at least 30% men. As of December 31, 2018, the Supervisory Board of Covestro AG comprises four women and eight men. The minimum legal requirement has thus been met.

At the end of the first target attainment period on June 30, 2017, the Supervisory Board decided on a target quota of at least 40% for women on the Board of Management of Covestro AG and an implementation period through June 30, 2022.

In addition, in the past year the Board of Management set new targets for the first two management levels below the Board of Management. For the new period until June 30, 2022, the goal of Covestro AG and the Covestro Group is to achieve a minimum of 30% women at both levels.

Targets for Covestro AG and the Covestro Group

	Covestro AG		Covestro-Konzern	
	Status quo (December 31, 2018	Target (by June 30, 2022	Status quo (December 31, 2018	Target (by June 30, 2022
Management level[1]	0%	30%	7%	30%
Management level[2]	27%	30%	20%	30%

[1] Direct reports to the Board of Management with management responsibilities
[2] Direct reports to management level 1 with management responsibilities

Supervisory Board

Duties and activities of the Supervisory Board

The Supervisory Board advises and oversees the Board of Management. The Supervisory Board is directly involved in decisions on matters of fundamental importance to the company, regularly conferring with the Board of Management on the strategic alignment of Covestro AG and the Covestro Group, and on the implementation status of the business strategy. The Supervisory Board Chair coordinates its work and presides over the meetings.

Through regular and open discussions with the Board of Management, the Supervisory Board is kept informed of business policy, corporate planning and strategy. The Supervisory Board approves the annual budget and financing framework. It also approves the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group, along with the combined management report, taking into account the auditor's reports.

Composition of the Supervisory Board

The Supervisory Board has 12 members, half of whom are stockholder representatives and half employee representatives pursuant to the German Codetermination Act. The six members representing employees comprise four Covestro employees and two union representatives. The stockholder representatives are elected by the Annual General Meeting.

The Supervisory Board discussed the requirements stipulated by Section 100, Paragraph 5 of the German Stock Corporation Act. Based on its composition, the Supervisory Board as a whole has in-depth industry expertise in the chemical and polymer sector in which Covestro operates. This industry knowledge was acquired by the members either through their jobs or the requisite continuing education.

Committees of the Supervisory Board

The Supervisory Board currently has the following committees:

Presidial Committee: This comprises the Supervisory Board Chair and Vice Chair along with a further stockholder representative and a further employee representative. The Executive Committee serves primarily as the mediation committee pursuant to the German Codetermination Act. It has the task of submitting proposals to the Supervisory Board on the appointment of members of the Board of Management if the necessary two-thirds majority is not achieved in the first vote at a plenary meeting. Certain decision-making powers in connection with capital measures, including the power to amend the Articles of Incorporation, have also been delegated to this committee.

Members: Dr. Richard Pott (Chair), Peter Hausmann, Petra Kronen and Regine Stachelhaus

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chair of the Audit Committee in the reporting year, Prof. Dr. Rolf Nonnenmacher, satisfies the statutory requirements concerning expertise in the field of accounting or auditing that at least one member of the Supervisory Board and the Audit Committee is required to possess and is independent pursuant to Section 5.4.2 of the German Corporate Governance Code. The Audit Committee meets four times a year. It monitors the accounting and financial reporting process and is responsible for examining the financial statements, consolidated financial statements and management reports, and for discussing the quarterly and half-yearly reporting with the Board of Management. On the basis of the auditor's report, the Audit Committee develops proposals for resolutions by the Supervisory Board relating to the confirmation of the financial statements, the approval of the consolidated financial statements and the use of the distributable profit.

The Audit Committee is also responsible for the company's relationship with the external auditor. It submits a proposal to the full Supervisory Board concerning the auditor's appointment and may award the audit contract to the audit firm appointed on behalf of the Supervisory Board and agree the auditor's remuneration. It also suggests areas of focus for the audit and monitors the quality of the audit as well as the independence and qualifications of the auditor.

In addition, the Audit Committee monitors the effectiveness of the internal control system, the risk management system, the internal audit system and the compliance function.

Members: Prof. Dr. Rolf Nonnenmacher (Chair), Johannes Dietsch, Peter Hausmann, Petra Kronen, Irena Küstner and Dr. Richard Pott

Human Resources Committee: On this committee, too, there is parity of representation between stockholders and employees. It consists of the Supervisory Board Chair and three other members. The Human Resources Committee prepares the personnel decisions of the full Supervisory Board, which resolves on appointments or dismissals of members of the Board of Management. The Human Resources Committee resolves on behalf of the Supervisory Board on the service contracts of the members of the Board of Management. However, it is the task of the full Supervisory Board, based on the recommendations submitted by the Human Resources Committee, to resolve on the total compensation of the individual members of the Board of Management and the respective compensation components, as well as to regularly review the compensation system. The Human Resources Committee also discusses the long-term succession planning for the Board of Management.

Members: Dr. Richard Pott (Chair), Johannes Dietsch, Dr. Ulrich Liman and Petra Kronen

Nominations Committee: This committee carries out preparatory work when an election of stockholder representatives to the Supervisory Board is to be held. It suggests suitable candidates for the Supervisory Board to propose to the Annual General Meeting for election. The Nominations Committee comprises the Supervisory Board Chair, another stockholder representative on the Executive Committee and an elected stockholder representative.

Members: Dr. Richard Pott (Chair), Regine Stachelhaus and Ferdinando Falco Beccalli

In its report, the Supervisory Board provides detailed information about the work of the Supervisory Board and its committees.

Objectives for the composition of the Supervisory Board and diversity concept

The Supervisory Board should be composed in such a way that its members jointly possess the necessary expertise, skills and professional experience to properly perform their duties, and are sufficiently independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 of the German Corporate Governance Code.

Existing objectives for the composition

Covestro AG's Supervisory Board has agreed the following specific goals for its composition that align with the recommendations of the German Corporate Governance Code and at the same time provide for diversity in terms of age, independence and professional experience:

- The Supervisory Board has resolved that 75% of its members and more than half of the stockholder representatives on the Supervisory Board are to be independent.

- Absent special circumstances, a Supervisory Board member shall not serve more than three full terms of office and shall not hold office beyond the end of the next Annual General Meeting following his or her 72nd birthday.
- The Supervisory Board shall not include more than two former members of the company's Board of Management. Supervisory Board members may not perform executive functions or consulting activities for major competitors of the company or any Group company, and they must not be exposed to other significant conflicts of interest.
- At least two Supervisory Board members must have function-specific knowledge in each of the following areas:
- Accounting and/or auditing
- Strategy, mergers and acquisitions, capital markets
- Marketing, distribution, supply chain
- Research and development, innovation
- Technology, digitalization
- Human resources, change management
- Corporate governance, compliance
- The Supervisory Board must have at least two members with experience in industries, sales markets and/or divisions of importance to Covestro, e.g. (polymer) chemistry, production and technology.
- Taking into account the specific situation and international operations of Covestro and its affiliated companies, the Supervisory Board shall strive to ensure sufficient diversity among its members. Moreover, at least three members should have managerial experience in an international enterprise and/or experience serving on other supervisory boards or supervisory bodies.

The objectives described refer to the Supervisory Board as a whole unless resolved otherwise. However, since the Supervisory Board can only nominate candidates for election as stockholder representatives, it can only consider the objectives in making these nominations.

Implementation status of the objectives

The Supervisory Board has several members with international business experience and an international background. The objectives pertaining to age limits, length of service and independence are being met. In the opinion of the Supervisory Board, the stockholder representatives Dr. Richard Pott, Ferdinando Falco Beccalli, Dr. Christine Bortenlänger, Johannes Dietsch, Prof. Dr. Rolf Nonnenmacher and Regine Stachelhaus are independent pursuant to Section 5.4.2 of the German Corporate Governance Code. The requirements for function-specific knowledge are generally being met, but the specific goal of having at least two stockholders per field of expertise is not fulfilled in all areas.

Information about Covestro AG's current Supervisory Board members is available on our website at: www.covestro.com/en/company/management/supervisory-board

Stockholdings and reportable securities transactions by members of the Board of Management or Supervisory Board

Members of the Board of Management and Supervisory Board and their close relatives are legally required to disclose all transactions involving the purchase or sale of Covestro AG securities where such transactions total €5,000 or more in a calendar year. Covestro publishes details of such transactions immediately on its website and also notifies the German Federal Financial Supervisory Authority accordingly. This information is provided to the company register for archiving. Information on securities transactions by members of the Board of Management or Supervisory Board can be found at: investor.covestro.com/en/stock/shareholder-structure/disclosure-of-securities-transactions/

Common values and leadership principles

Covestro is guided by three corporate values that reflect the way people at the company think and act: curious, courageous and colorful.

Systematic risk management

Our enterprise risk management system ensures early identification of any financial or nonfinancial risks. We attempt to avoid or mitigate identified risks, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable.

The internal control system for accounting and financial reporting enables the timely monitoring of risks to prevent or correct potential errors in accounting for business transactions. It thus ensures the availability of reliable data on the company's financial situation.

However, the control and risk management system cannot provide absolute protection against losses arising from business risks or fraudulent actions.

Detailed reporting

To maximize transparency, we provide regular and timely information on the Covestro Group's position and significant changes in business activities to stockholders, financial analysts, stockholders' associations, the media and the general public. Four times a year we report to our stockholders about the company's business performance, its net assets, financial position, and results of operations, and the risks it faces. Our company's reporting thus complies with the provisions of the German Corporate Governance Code.

In line with statutory requirements, the members of the company's Board of Management provide an assurance that, to the best of their knowledge, the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report provide a true and fair view.

The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group and the combined management report are published within 90 days following the end of each fiscal year. During the fiscal year, Covestro informs stockholders and other interested parties about developments by means of the half-year financial report and additional interim reports for the first and third quarters. The half-year financial report is voluntarily subjected to a review by the auditor appointed by the Annual General Meeting.

Covestro additionally provides information about the current corporate strategy, important growth areas, the financial position and results of operations, and financial targets at regular news conferences and analysts' meetings. The company uses the internet as a platform for the timely disclosure of information, with the dates of major publications and events, such as the annual report, interim financial reports and the Annual General Meeting posted on the Group's website.

In line with the principle of fair disclosure, all stockholders and other main target groups are treated equally as regards the communication of valuation-relevant information. All significant new facts are disclosed immediately to the general public. In addition to our regular reporting, we issue ad-hoc statements on developments that otherwise might not become publicly known but have the potential to materially affect the price of Covestro stock.

23. Takeover-relevant Information

Description pursuant to Section 289a, Paragraph 1 and Section 315a, Paragraph 1 of the German Commercial Code (HGB)

Investments in capital interest held, exceeding 10% of total voting rights

We have received no notification nor are we otherwise aware of direct or indirect investments in capital interest held, equal to or exceeding 10% of the voting rights.

For information on Covestro's ownership structure, see: investor.covestro.com/en/stock/shareholder-structure

Board of Management

Appointment and dismissal of members of the Board of Management, changes to the Articles of Incorporation

The appointment and dismissal of members of the Board of Management are subject to the provisions of Sections 84 and 85 of the German Stock Corporation Act, Section 31 of the German Codetermination Act and Section 6 of the company's Articles of Incorporation. Pursuant to Section 84, Paragraph 1 of the German Stock Corporation Act, the members of the Board of Management are appointed and dismissed by the Supervisory Board. Since Covestro AG falls within the scope of the German Codetermination Act, the appointment or dismissal of members of the Board of Management requires a majority of two-thirds of the votes of the members of the Supervisory Board on the first ballot pursuant to Section 31, Paragraph 2 of that act. If no such majority is achieved, the appointment is resolved pursuant to Section 31, Paragraph 3 of the Codetermination Act on a second ballot by a simple majority of the votes of the members of the Supervisory Board. If the required majority still is not achieved, a third ballot is held. Here again, a simple majority of the votes of the members suffices, but in this ballot the Supervisory Board Chair has two votes pursuant to Section 31, Paragraph 4 of the Codetermination Act. Under Section 6, Paragraph 1 of the Articles of Incorporation of Covestro AG, the number of members of the Board of Management is determined by the Supervisory Board but must be at least two. The Supervisory Board may appoint one member of the Board of Management to be its Chair and one member to be the Vice Chair pursuant to Section 84, Paragraph 2 of the German Stock Corporation Act and Section 6, Paragraph 1 of the Articles of Incorporation.

Any amendments to the Articles of Incorporation are made pursuant to Section 179 of the German Stock Corporation Act and Sections 10 and 17 of the Articles of Incorporation. Under Section 179, Paragraph 1 of the German Stock Corporation Act, amendments to the Articles of Incorporation require a resolution of the Stockholders' Meeting. Pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act, this resolution must be passed by a majority of three-quarters of the voting capital represented at the meeting, unless the Articles of Incorporation provide for a different majority. However, where an amendment relates to a change in the object of the company, the Articles of Incorporation may only specify a larger majority. Section 17, Paragraph 2 of the Articles of Incorporation of Covestro AG utilizes the scope for deviation pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act and provides that resolutions may be passed by a simple majority of the votes cast or, where a capital majority is required, by a simple majority of the capital represented. Pursuant to Section 10, Paragraph 9 of the Articles of Incorporation, the Supervisory Board may resolve on amendments to the Articles of Incorporation that relate solely to their wording.

Capital

Composition of the capital stock

The capital stock of Covestro AG amounted to € 183,000,000 as of December 31, 2018, and is composed of 183,000,000 no-par value bearer shares. Each share confers equal rights and one vote at the Stockholders' Meeting. On December 3, 2018, the Covestro AG Board of Management resolved to buy back 19,500,000 own shares against a reduction in the Company's capital stock of €19,500,000. The Company's Articles of Incorporation were changed accordingly by resolution of the Supervisory Board on December 7, 2018.

Authorized capital

Provisions of the Articles of Incorporation concerning authorized capital are entered in the commercial register of Covestro AG. With the approval of the Supervisory Board and until October 2, 2020, the Board of Management may use the authorized capital to increase the capital stock by up to a total of €101,250,000. New no-par value bearer shares may be issued against cash contributions and/or contributions in kind. If the authorized capital is used to issue shares in return for cash contributions, stockholders must normally be granted subscription rights. However, the Board of Management is authorized – with the consent of the Supervisory Board – to exclude subscription rights for stockholders:

(a) Where the subscription ratio gives rise to fractional amounts.

(b) To the extent necessary to grant holders or creditors of bonds (including jouissance rights) with warrants or conversion rights or obligations issued by the company or its Group companies the right to subscribe to new shares to the extent to which they would be entitled after exercise of their warrants or conversion rights, or performance of their exercise or conversion obligations.

(c) If the capital is increased by granting shares against contributions in kind.

(d) If the new shares are issued at a price that is not significantly below the stock market price and the total interest in the capital stock attributable to the new shares for which subscription rights are excluded pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act does not exceed 10% of the existing capital stock either on the date this authorization takes effect or the date it is utilized. The sale of treasury shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Further, shares issued or to be issued to service bonds (including jouissance rights) with warrants or conversion rights or obligations shall also count toward this limit where such bonds or jouissance rights were issued during the term of this authorization and stockholders' subscription rights were excluded in analogous application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act.

(e) To issue a scrip dividend in which stockholders are given the option of contributing their dividend entitlements to the company (either in full or in part) as a noncash contribution in return for the granting of new shares in the company out of the authorized capital.

Conditional capital

The company's capital stock shall be conditionally increased by up to €70,000,000, divided into up to 70,000,000 no-par value bearer shares (conditional capital). The conditional capital increase shall only be implemented to the extent that the holders of warrants or conversion rights attached to bonds (including jouissance rights) issued or guaranteed by the company or its Group companies up to August 31, 2020, on the basis of the authorization of the Stockholders' Meeting of September 1, 2015, exercise their warrant or conversion rights or perform their warrant or conversion obligations, and to the extent that such warrants or conversion rights or obligations cannot be serviced by treasury shares, shares issued out of the authorized capital, or other forms of settlement.

The new shares shall be issued at the warrant or conversion price to be determined in accordance with the authorizing resolution referred to above. The new shares shall participate in the profit from the beginning of the fiscal year in which they come into existence; however, the Board of Management, with the consent of the Supervisory Board, may decide that the new shares shall participate in the profit from the beginning of the fiscal year for which, at the time when the warrants or conversion rights are exercised or the exercise or conversion obligations are performed, the Stockholders' Meeting has not yet adopted a resolution on the use of the distributable profit. The Board of Management is authorized, with the consent of the Supervisory Board, to set further details of the terms of the conditional capital increase. In the event of a capital increase, the company may regulate dividend entitlement of the new shares differently from what is specified in Section 60 of the German Stock Corporation Act.

Acquisition and use of treasury shares

By a resolution adopted by the Stockholders' Meeting on September 1, 2015, the Board of Management is authorized to acquire and use treasury shares, also using derivatives. The individual details of the resolution are as follows:

1. Authorization granted to the Board of Management to acquire and use treasury shares

1.1 The Board of Management is authorized until August 31, 2020, to acquire treasury shares with a proportionate interest in the capital stock totaling up to 10% of the company's capital stock existing at the date of the resolution, subject to the proviso that the shares acquired as a result of this authorization, together with other shares of the company that the company has already acquired and still holds, or which are attributable to it under Sections 71d and 71e of the German Stock Corporation Act, at no time exceed 10% of the capital stock of the company. The provisions in Section 71, Paragraph 2, Sentences 2 and 3 of the German Stock Corporation Act must be complied with.

Making use of the authorization to acquire treasury shares, Covestro AG's Board of Management resolved on October 24, 2017, to buy back treasury shares totaling up to €1.5 billion (excluding transaction costs), or up to 10% of the company's capital stock, whichever comes first.

The acquisition may only take place via the stock exchange or by means of a public purchase offer and must satisfy the principle of equal treatment of stockholders (Section 53a of the German Stock Corporation Act). If the acquisition takes place via the stock exchange, the purchase price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the opening auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day, by more than 10%. If the acquisition takes place by means of a public purchase offer, the offer price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the closing auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last trading day before the publication of the purchase offer, by more than 10%. If the total number of the shares tendered in response to a public purchase offer exceeds the offer volume, purchases may be made in proportion to the number of shares tendered (tender ratios); in addition, preferential acceptance of small numbers of shares (up to 50 shares per stockholder), as well as rounding in accordance with commercial principles to avoid notional share fractions, may be provided for. Any further stockholder tender rights are disapplied to this extent.

1.2 The authorization may be exercised in full, or in a number of partial amounts split across several acquisition dates, until the maximum purchase volume has been reached. The acquisition may also be carried out by Group companies that are dependent on the company within the meaning of Section 17 of the German Stock Corporation Act, or by third parties on behalf of the company or such Group companies. The authorization may, subject to compliance with the statutory requirements, be exercised for any purpose permissible in law, especially in pursuit of one or more of the purposes listed in 1.3, 1.4, 1.5 and 1.6. Trading in treasury shares is not permitted.

If the treasury shares acquired are used for one or more of the purposes described under 1.3 or 1.4, the stockholders' subscription rights are disapplied. The Board of Management is authorized to disapply subscription rights if the treasury shares acquired are used for the purpose specified in 1.6. Stockholders also do not have any subscription rights if the treasury shares acquired are sold via the stock exchange. In the event that the treasury shares acquired are sold by means of a public offer to stockholders and this public offer complies with the principle of equal treatment, the Board of Management is authorized to disapply the stockholders' subscription rights for fractions.

1.3 The Board of Management is authorized to also sell the treasury shares acquired under the above authorization in a manner other than via the stock exchange or via an offer to all stockholders, provided that the sale takes place against cash consideration and at a price which, at the date of sale, is not significantly lower than the market price for the same class of shares in the company. This authorization concerning the use of shares is restricted to shares whose proportionate interest in the capital stock may not in total exceed 10% of the capital stock either at the date when this authorization becomes effective or, if this amount is lower, at the date when the present authorization is exercised. The upper limit of 10% of the capital stock is reduced by the proportionate interest in the capital stock which is attributable to those shares which are issued or sold while disapplying subscription rights under or in accordance with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act on or after September 1, 2015. The upper limit of 10% of the capital stock is further reduced by the proportionate interest in the capital stock which is attributable to those shares which are to be issued to service bonds with warrants or conversion rights or obligations, provided that these bonds are issued while disapplying subscription rights in application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act, with the necessary modifications, on or after September 1, 2015.

1.4 The Board of Management is authorized to transfer the treasury shares acquired under the above authorization to third parties, provided this is done for the purpose of acquiring companies, parts of companies, equity interests in companies, or other assets, or to effect business combinations.

1.5 The Board of Management is authorized to retire the treasury shares acquired under the above authorization without a further resolution by the Stockholders' Meeting. The shares may also be retired without reducing the capital by adjusting the proportionate interest of the remaining no-par value shares in the capital stock of the company. In this case, the Board of Management is authorized to amend the number of no-par value shares in the Articles of Incorporation.

1.6 The Board of Management is authorized to use the treasury shares acquired as a result of the above-mentioned authorization to pay a scrip dividend.

1.7 The Board of Management may only use the authorizations in 1.3, 1.4 and 1.6 with the consent of the Supervisory Board. Moreover, the Supervisory Board can determine that the measures taken by the Board of Management on the basis of this Stockholders' Meeting resolution may only be implemented with its consent.

1.8 Overall, the above authorizations concerning the use of shares may be utilized on one or several occasions, individually or together, in relation to partial volumes of the treasury shares or all treasury shares held in total.

Under the share buy-back program, the company acquired treasury shares at a total price of approximately €1.5 billion (excluding transaction costs) in three tranches during the period from November 21, 2017, up to and including December 4, 2018, corresponding to a proportional share of 9.84% of the capital stock of the company registered to that date that amounted to €202,500,000. From January 1 through December 4, 2018, a total of 18,260,077 treasury shares were acquired at a total price of some €1.3 billion. This corresponds to 9.02% of the capital stock of the Company of €202,500,000 registered to that date.

2. Authorization for acquisition using derivatives

2.1 Treasury shares being acquired as part of the authorization under 1.1 may also be acquired using put or call options. In this case, the option transactions must be entered into with a credit institution, or a company which operates in accordance with Section 53, Paragraph 1, Sentence 1 or Section 53b, Paragraph 1, Sentence 1 or Paragraph 7 of the German Banking Act, that is independent of the company (financial institution), provided that this financial institution, when the option is exercised, only delivers shares which were previously acquired via the stock exchange at a market-driven price in compliance with the principle of equal treatment.

2.2 The acquisition of shares using put or call options is limited to a maximum of 5% of the capital stock in existence as of the date of the resolution by the Stockholders' Meeting or, if this value is lower, – as of the date when the authorization is exercised.

2.3 The option premium paid by the company in the case of call options may not be materially higher and the option premium received in the case of put options may not be materially lower than the theoretical fair value of the options concerned calculated using accepted valuation techniques. The exercise price agreed in the option transaction (in each case not including transaction costs, but taking into account the option premium received or paid) may not be more than 10% higher or lower than the price of the company's shares as determined by the opening auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day on which the option transaction was entered into.

2.4 The term of the individual derivatives may not, in each case, exceed 18 months; it must end at the latest on August 31, 2020, and must be selected so that the shares are not acquired using derivatives after August 31, 2020.

2.5 The provisions under 1.1 also apply to the use of company shares that have been acquired on the basis of this authorization.

3. Authorization to issue convertible bonds, warrant bonds and/or jouissance rights and to disapply subscription rights to these convertible bonds, warrant bonds and/or jouissance rights

3.1 Authorization period, object, nominal value, term, number of shares

The Board of Management is authorized, with the approval of the Supervisory Board, to issue by August 31, 2020 – in one or more installments – convertible bonds, warrant bonds and/or jouissance rights (collectively referred to as "bonds") – as either registered or bearer bonds – with a total nominal value of up to €1,500,000,000, with or without limited maturity, and to grant to the creditors of these bonds warrants or conversion rights in respect of up to 70,000,000 no-par value bearer shares of the company representing a total pro-rated increase of up to €70,000,000 in the company's capital stock (hereinafter referred to as "shares of the company") on the terms to be defined for these bonds (hereinafter referred as the "terms of the bond"). The Board of Management can use the authorization in one or more installments. Bonds may also be issued against consideration in kind.

3.2 Currency, issue by Group companies

The bonds may be issued in euros or in the legal currency of any OECD country up to the equivalent value in euros. If bonds are issued in a currency other than the euro, the value shall be calculated using the European Central Bank's reference price for that currency on the date the resolution concerning the bond issue was taken. The bonds may also be issued by a Group company within the meaning of Section 8 of the German Stock Corporation Act. In such case, the Board of Management is authorized, with the approval of the Supervisory Board, to assume the guarantee for redemption of the bonds and to grant to the creditors of these bonds warrants or conversion rights to shares of the company.

3.3 Conversion rights/obligations, conversion ratio

In the case of bonds with conversion rights, creditors may exchange their bonds for shares of the company in accordance with the terms of the bond. The proportionate interest in the capital stock upon conversion into shares may not exceed the nominal value or a lower issue price for the bond with conversion rights. The conversion ratio is the nominal value of a bond with conversion rights divided by the conversion price for a share in the company. This applies analogously if the price of the bond with conversion rights is lower than the nominal value. The conversion ratio may be rounded up or down to the nearest whole number.

Moreover, an additional cash payment may be determined. It may also be determined that fractions are aggregated and/or paid out in cash. The terms of the bond may provide for a fixed or variable conversion ratio. The terms of the bond may also specify a conversion obligation. Moreover, they may entitle the company to grant the creditors of bonds with conversion rights upon or before maturity shares in the company in full or partial place of the cash amount due (company's substitution right). The terms of the bond may also authorize the company to compensate by cash in full or in part any difference between the nominal value of the bond with conversion rights and the product of the conversion ratio and a price for the share at the time of conversion that is to be specified in the terms of the bond. The share price used in the calculation in accordance with the preceding sentence must be at least 80% of the share price relevant for the lower limit of the conversion price in accordance with the following No. 3.6.

3.4 Warrants/exercise obligations

In the case of bonds with warrants or exercise obligations, one or several warrants are attached to each bond entitling the creditors to subscribe to shares in the company in accordance with the terms of the bond that are to be defined by the Board of Management. The subscription ratio is the nominal value of a bond with warrants divided by the subscription price for a share in the company. The proportionate interest in the capital stock represented by the shares of the company to be issued on exercise of the options may not exceed the nominal value of the bonds. The terms of the bond may also provide for subscription to a variable number of shares on exercise of the warrants. They may also permit settlement of the subscription price by way of a transfer of bonds and, if necessary, an additional cash payment.

3.5 Granting of new or existing shares, cash payment

When exercising warrants or conversion rights or when meeting exercise or conversion obligations, the company may choose to either grant new shares issued from conditional capital or existing shares in the company or shares in another listed corporation. The terms of the bond may entitle the company to pay the cash value instead of granting shares when exercising warrants or conversion rights or when meeting exercise or conversion obligations.

3.6 Conversion/exercise price

The conversion/exercise price must be at least 80% of the volume-weighted average closing price for the company's shares in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last ten trading days before the day on which the Board of Management passes the resolution concerning the bond issue or at least 80% of the average closing price for the company's shares in XETRA® trading (or a comparable successor system) during the days on which the subscription rights are traded on the Frankfurt Stock Exchange, with the exception of the last two trading days of subscription rights trading. In the case of bonds that are subject to mandatory conversion or if the company exercises its substitution right, the conversion price for one share must be either the aforementioned minimum price or at least the average closing price for the company's shares in XETRA® trading (or a comparable successor system) on the ten trading days before the day on which the conversion takes effect. The terms of the bond may provide for changes to the conversion or exercise price over the course of its term, taking account of the minimum prices as described above within a range specified by the Board of Management depending on the development of the share price. The terms of the bond may include dilution clauses for the case that, during the conversion or exercise period, the company increases the capital stock with subscription rights for its stockholders or issues further convertible bonds, warrant bonds, or profit jouissance rights or grants or guarantees other option rights and disapplies the subscription rights to which the holders of warrants or conversion rights would be entitled on exercise of their warrants or conversion rights or on performance of their conversion obligations. The terms of the bond may also allow a value-preserving adjustment of the conversion or exercise price or of the option ratio or payment of a cash component in the event of other measures taken by the company or events which entail an economic dilution of the value of the warrants or conversion rights (e.g. dividends). Under no circumstances may the proportionate interest in the capital stock per share attached to a bond exceed the nominal value of the bond itself.

This shall not affect Section 9, Paragraph 1 or Section 199 of the German Stock Corporation Act.

3.7 Other terms of the bond
The Board of Management is authorized, with the consent of the Supervisory Board, to set further details for the issue and class of the bonds.

3.8 Subscription rights, disapplying subscription rights
When bonds are issued, stockholders must be granted subscription rights as a matter of principle. The bonds may be taken up by one or more banks with the obligation to offer them for subscription to stockholders. However, when issuing bonds, the Board of Management is authorized – with the consent of the Supervisory Board – to disapply stockholders' subscription rights:

3.8.1 For fractions.

3.8.2 Insofar as it is necessary to grant the holders of warrants or conversion rights to shares in the company or the creditors of bonds with conversion obligations attached a subscription right to the extent to which they would be entitled if they were to exercise their rights or perform the conversion obligation.

3.8.3 Insofar as the bonds are issued against cash and the issue price does not substantially fall below the theoretical market value of the bonds as determined in accordance with recognized financial principles. However, this authorization to disapply subscription rights relates only to bonds with rights to shares with a total proportionate interest in the capital stock of no more than 10%, and neither at the time when this authorization becomes effective nor at the time it is exercised. The sale of treasury shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Those shares issued during the term of this authorization from authorized capital and on which subscription rights are disapplied pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act shall also count toward this limit.

3.8.4 Insofar as they are issued against considerations in kind and the value of these considerations in kind is in reasonable proportion to the market value of the bonds determined according to the preceding No. 3.8.3.

Material conditional agreements

Some debt financing instruments contain clauses that refer to cases of change of control. Such clauses grant the respective investor additional rights of termination, which will possibly be restricted by additional conditions – such as a rating being downgraded. Our syndicated credit line and our bonds, for example, are governed by change-of-control agreements.

Agreements exist for the members of the Board of Management in compliance with Section 4.2.3 of the German Corporate Governance Code to cover the eventuality of a takeover offer being made for Covestro AG. Under these agreements, payments promised in the event of early termination of the service contract of a Board of Management member due to a change of control are limited to the value of three years' compensation and may not compensate more than the remaining term of the contract.

24. Compliance

Our corporate conduct is characterized by a sense of responsibility as well as ethical principles. Compliance with legal and regulatory requirements is integral to our operations. It is only in this manner that we can sustainably increase the company's enterprise value and safeguard our reputation.

Compliance culture and targets

In our Corporate Compliance Policy, Covestro has specified a Group-wide code of conduct that mandates fundamental principles and rules for all employees. This code of conduct details our commitment to fair competition, integrity in business dealings, the principles of sustainability and product stewardship, data protection, upholding of foreign trade and insider dealing laws, the separation of business and private interests, proper record-keeping and transparent financial reporting, as well as to providing fair, respectful and nondiscriminatory working conditions. The requirements of our Corporate Compliance Policy apply within the company as well as to all interactions with external partners and the general public. Our code of conduct furthermore provides a decision-making framework for our company and our employees. Our Corporate Compliance Policy is available online and on our intranet. New employees receive a comprehensive set of information documents, including our Corporate Compliance Policy.

Covestro is aware that employees will likely embrace and exhibit integrity if managers are excellent role models. As the Board of Management of Covestro states very clearly in its Corporate Compliance Policy for all staff, Covestro does not conduct any business activities that would be legal yet violate our rules. In addition, supervisors are prohibited from instructing employees to violate any Covestro rule. In this way, management continuously fosters our compliance culture by, for example, regularly drawing employees' attention to compliance topics and their significance to the company. At Covestro town hall meetings, for example, Board of Management members present recent compliance cases to employees as well as underscore the importance of complying with statutory requirements and in-house regulations.

We want to utilize our compliance management system in order to:

- Foster and reinforce conduct per compliance requirements;
- Minimize or even eliminate compliance violations;
- Identify risks for potential violations;
- Implement preventive measures;
- Uncover, remedy and proactively eliminate a repeat occurrence of any compliance violations committed by individuals acting without authorization and in breach of clear rules; and
- Achieve continuous improvement of our compliance management system.

Compliance organization

At Covestro, the Chief Compliance Officer oversees compliance activities and reports in this capacity directly to the Board of Management. A central Compliance department coordinates compliance activities throughout the Covestro Group. The Compliance Committee, chaired by the CFO of Covestro, is the Group's top-level decision-making body on compliance issues. In addition, the Compliance Committee is in charge of the following: exercising a Group-wide compliance governance function, initiating and approving compliance-related regulations and approving the annual training plan. In the reporting period, the Compliance Committee met a total of four times.

A local Compliance Officer has also been appointed for each country in which Covestro has employees. This person serves as a local point of contact for employees on all questions regarding legally and ethically correct conduct in business situations. The country organizations also have local compliance committees.

Communication

Covestro systematically conducts training courses on compliance. Once areas of emphasis have been specified, specialists define target groups for each category of course content and determine which employees require which type of training.

Covestro expressly encourages its employees to openly address any doubts about proper conduct in business situations and to solicit advice. We inform all employees whom they can contact if they have any doubts or questions. Covestro has also set up a whistleblowing portal. Internal and external persons can report potential compliance violations through a hotline accessible worldwide or use an email address that also permits anonymous reports. In addition, employees can also report any compliance incidents to their supervisors, to the local Compliance Officer of their company, or to the Global Compliance Office.

An internal policy sets out the principles for handling compliance incidents at Covestro. This policy also stipulates that all suspected compliance incidents be recorded in a central database. Confirmed violations are evaluated. Organizational, disciplinary or legal measures are taken if necessary.

Compliance incidents are regularly reported to the Supervisory Board, the Board of Management and the segments' management teams. In addition, a current overview of compliance incidents, along with news and additional information on various aspects and developments related to this topic, is published in a monthly Compliance Telegram on the intranet and therefore can be viewed by all employees.

On a quarterly basis, all Covestro companies document risks arising from pending or current legal proceedings. Relevant cases are reported to the Audit Committee of the Supervisory Board, and the major risks are disclosed in the notes to the consolidated financial statements.

Due diligence on human rights

Covestro is committed to respect for human rights on the basis of the United Nations Guiding Principles on Business and Human Rights. In particular, we are committed to meeting the requirements of various country-specific action plans and laws with respect to due diligence on human rights. We acknowledge that companies are responsible for respecting human rights in their scope of business operations, at subsidiaries and throughout global supply chains and value chains as well as guarding against violations of human rights.

See section 6 "Sustainability in Supplier Management"

The principles of our due diligence on human rights are delineated in various corporate commitment documents, company policies, and our Supplier Code of Conduct. We revised our Corporate Commitment on Human Rights in 2018 and published it on our website. In this document, we have specified key international conventions and principles as the basis of our conduct. We expect our employees and business partners around the world to conduct themselves in accordance with these principles.

A key component of our due diligence on human rights lies in zero tolerance of child labor, forced labor and human trafficking. We made a public statement on the latter last year in our document "Corporate Commitment against Slavery and Human Trafficking."

25. Compensation Report

The Compensation Report describes the essential features of the compensation system for the members of the Board of Management and the Supervisory Board of Covestro AG and explains the compensation of the individual members. The report conforms to the requirements of the German Commercial Code, including the principles of German Accounting Standard No. 17 (DRS 17) and to the recommendations of the German Corporate Governance Code (GCGC) as amended on February 7, 2017. It also complies with the International Financial Reporting Standards (IFRSs).

Compensation of the Board of Management

Objectives

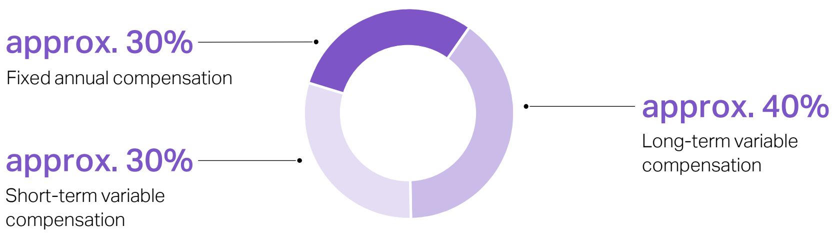
The compensation system for the Board of Management of Covestro AG is designed to facilitate a long-term increase in the company's value and responsible corporate governance. Furthermore, we aim to position Covestro as an attractive employer in the competition for highly qualified executives, and ensure statutory and regulatory compliance. Board of Management compensation is in line with the basic principles of the compensation structure for managerial employees in the Covestro Group.

The appropriateness of the system and the compensation level are regularly reviewed by the Supervisory Board, which then makes any necessary adjustments. To this end, Covestro is compared with DAX and MDAX companies to determine, in particular, whether Covestro's relative position within this group of companies in terms of revenue, employees and market capitalization is in line with the relative positioning of Board of Management compensation.

Compensation structure

The compensation comprises a non-performance-related component, an annual incentive and a long-term stock-based component. The Covestro Group's compensation structure, based on average total annual compensation for a Board of Management member at 100% target attainment, is as follows:

Board of Management Compensation Structure (German Commercial Code)[1]



[1] Excluding fringe benefits and pension entitlements

The non-performance-related compensation comprises the fixed annual compensation, which reflects the responsibilities and performance of the Board of Management members, along with fringe benefits. The performance-related compensation comprises a short-term variable component, which depends on the attainment of the corporate performance targets and on the long-term variable compensation, the stock-based compensation program Prisma. This is linked directly to changes in Covestro's share price.

The members of the Board of Management also receive pension entitlements for themselves and their surviving dependents. Furthermore, Covestro AG has purchased insurance for the members of the Board of Management to cover their personal liability arising from their service on the Board of Management. This includes a deductible that is in line with the GCGC recommendation.

Non-performance-related components

Fixed annual compensation

The level of the non-performance-related, fixed annual compensation for members of the Board of Management takes into account the functions and responsibilities assigned to them as well as market conditions. The fixed compensation is regularly reviewed by the Supervisory Board in light of factors such as the consumer price index and adjusted if necessary. It is paid out in 12 monthly installments.

Fringe benefits

Fringe benefits mainly comprise a company car (limited to the term of existing vehicle leases) or a vehicle allowance, use of the company carpool, payments toward the cost of security equipment, and reimbursement of the cost of annual health screening examinations. They are reported at cost or the amount of the pecuniary advantage gained.

Performance-related components

Short-term variable compensation

The target value of the short-term variable compensation is 100% of the fixed annual compensation. This amount is adjusted in line with the company's success.

In fiscal year 2016, the Group-wide Covestro Profit Sharing Plan (Covestro PSP) was introduced, which also applies to the members of the Board of Management. It consists of a short-term variable compensation based solely on the company's success. The system is based on the same performance indicators used to manage the company. The payout is based on performance in the areas of growth (core volume growth), liquidity (free operating cash flow, FOCF,) and profitability (return on capital employed, ROCE), with each counting for one third. In 2015, the Supervisory Board defined the global values for the threshold, 100% achievement and the maximum amount for each performance indicator, which are applied for the last time in fiscal 2018.

Components of the Covestro Profit Sharing Plan 2016–2018

	Growth: Core volume growth	Liquidity: FOCF	Profitability: ROCE
Threshold (0%)	+1.5%	Cash inflow of €250 million	ROCE = WACC
100% target attainment	+3.5%	Cash inflow of €500 million	1% point above WACC
Ceiling (300%)	+6.5%	Cash inflow of €875 million	2.5% points above WACC

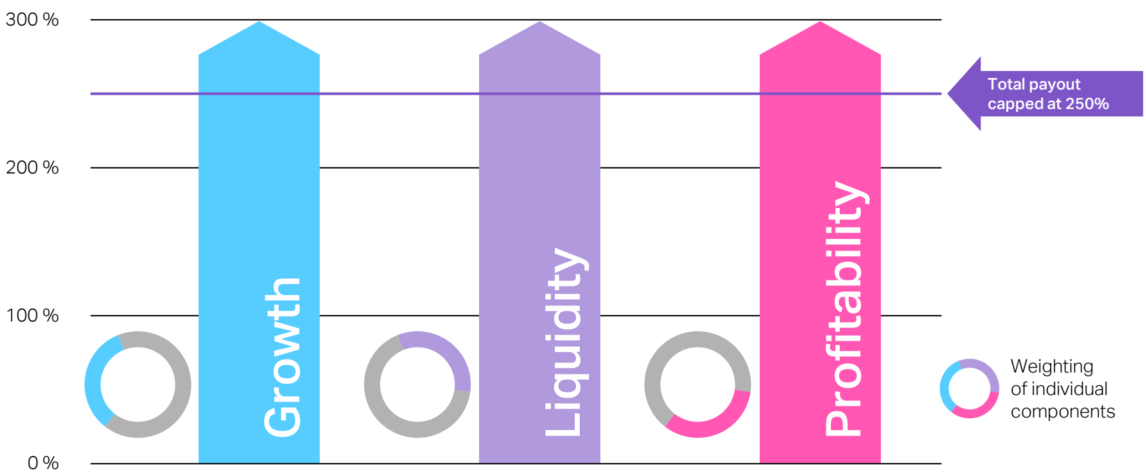
The figures for the upcoming years were adjusted for the Covestro PSP. The values below are applicable to the three-year period from 2019 to 2021.

Components of the Covestro Profit Sharing Plan 2019–2021

	Growth: Core volume growth	Liquidity: FOCF	Profitability: ROCE
Threshold (0%)	+1.5%	Cash inflow of €400 million	ROCE = WACC
100% target attainment	+4.0%	Cash inflow of €800 million	8% points above WACC
Ceiling (300%)	+9.0%	Cash inflow of €1,600 million	24% points above WACC

For each individual KPI, the payout can be between zero (failure to meet minimum requirements) and three times the target value; however, the maximum payout for all three components combined is limited to 250% of the target value. The maximum payout is therefore 2.5 times the fixed annual compensation.

Components of Short-Term Variable Compensation



Long-term compensation

Aspire

The Board of Management members in office since 2015 are still formally participating in the final ongoing performance period (2015–2018 tranche) of the Bayer Group's Aspire long-term stock-based compensation program. The payments made under this program are based on the Aspire Target Opportunity, which is a contractually agreed percentage of fixed annual compensation. Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX 50® benchmark index, participants are granted an award between 0% and 300% of their individual Aspire Target Opportunity at the end of the respective performance period.

In order to break the link between the payout and the development of Bayer's share price, which can no longer be materially influenced by the members of the Board of Management, the Supervisory Board decided in 2015 that the average price of Bayer stock and the benchmark index calculated from the closing prices for the last 30 trading days of 2015 would be used as the closing price for all current tranches and that the payout amount would be frozen accordingly. As a result, there will be no payout for the 2015–2018 tranche otherwise due in January 2019, because the relevant average price as of year end 2015 remained below the hurdle. The target value for the 2015–2018 tranche was reduced to 8/12 of the full value (pro rata for the period from January to August 2015). This was compensated for by increasing the target value for the first tranche of Covestro's own Prisma long-term compensation program launched in 2016 by 4/12.

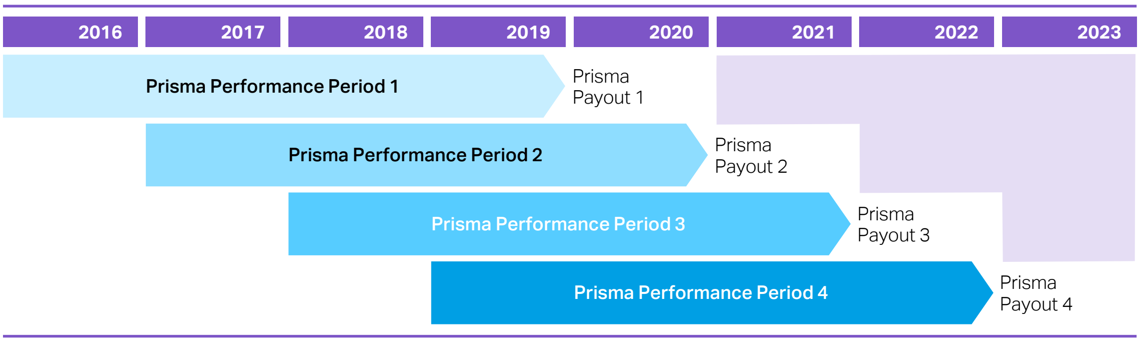
Prisma

The members of the Board of Management are eligible to participate in the Prisma compensation program as long as they remain in the service of the Covestro Group and acquire for their own account and hold Covestro shares according to defined policies. This program is based on a target opportunity set at 130% of the fixed annual compensation. When a member of the Board of Management retires, current tranches may be shortened, thus reducing their value.

The payout is determined by calculating two factors: the total shareholder return (TSR) factor is the return generated by a stock expressed as a percentage (total of the final price of the share and all dividends distributed per share during the performance period divided by the initial price). The outperformance factor is based on the performance of Covestro stock during the performance period relative to the performance of the STOXX® Europe 600 Chemicals index. It is determined by expressing the difference between the performance of Covestro stock and that of the index as a percentage. The factor is greater than 100% (less than 100%) if Covestro's stock outperforms (underperforms) the index.

The Prisma target opportunity of each participant is multiplied by the TSR factor and the outperformance factor to arrive at the total distribution figure. The total distribution is limited to no more than 200% of the target opportunity. The maximum payout is therefore 260% of the fixed annual compensation. If Covestro's shares were to significantly underperform the index (e.g. if the price of the stock went down while the index increased in value), the outperformance factor could amount to zero. As a result, there would be no payout.

Prisma Performance Periods



Other stock-based compensation

In his capacity as subgroup CEO within the Bayer Group, Patrick Thomas received a split payout of the short-term variable compensation (short-term incentive, STI) for the period prior to fiscal unity from October 2013 to December 2014. Part of the STI was paid out in the form of virtual Bayer shares with a three-year lock-up period. The payout of the STI tranche for fiscal 2013 of the entitlements based on virtual Bayer shares took place in 2017. The payout of the STI tranche for fiscal 2014 took place in 2018. The payout amount for both tranches was “frozen” on the basis of the stock price as of December 31, 2015.

Pension entitlements (retirement and surviving dependents’ pensions)

The members of the Board of Management are entitled to receive a lifelong company pension after leaving the Covestro Group, though generally not before the age of 62. This pension is paid out in the form of a monthly life annuity.

The arrangements for surviving dependents basically provide for a widow’s pension amounting to 60% of the member’s pension entitlement, and an orphan’s pension amounting to 12% of the member’s pension entitlement for each child.

The annual pension entitlement is based on contributions. From September 1, 2015, onward, Covestro has provided a hypothetical contribution amounting to as much as 33% of the respective fixed compensation each year. This percentage comprises a 6% basic contribution and a matching contribution of up to 27% – three times the member’s maximum personal contribution of 9%. The total annual contribution is converted into a pension module according to the annuity table for the applicable tariff of the Rheinische Pensionskasse VVaG pension fund. The annual pension entitlement upon retirement is the total amount of the accumulated pension modules including an investment bonus, which is determined annually by the representatives’ meeting of the Rheinische Pensionskasse VVaG and approved by the German Financial Supervisory Authority.

In the case of fixed compensation up to the annual income threshold, the Board of Management members, like all entitled employees, remain subject to the rules governing the basic company pension and are regular participants in the relevant pension plan.

Dr. Klaus Schäfer has been granted, in addition, a vested entitlement to a fixed annual pension of €126,750.

The actual pension entitlement cannot be precisely determined in advance. It depends on the development of the member’s compensation, the number of years of service on the Board of Management and the return on the assets of the Rheinische Pensionskasse VVaG.

Certain assets are administered under a contractual trust agreement (CTA), providing additional insolvency protection for pension entitlements resulting from direct commitments for the members of the Board of Management in Germany.

As a rule, future pension payments are adjusted by at least 1% per year. Depending on the pension obligation, an additional adjustment may be made if the investment bonus of the Rheinische Pensionskasse VVaG or the consumer price index exceeds 1% per year.

Cap on compensation

The individual performance-related components are capped at the grant date. To comply with the recommendation of the German Corporate Governance Code, a cap has also been agreed for the compensation as a whole. In 2018, the Supervisory Board resolved to include company pension expenditures above and beyond the components already taken into account (fixed annual compensation and variable components) in calculating total target compensation, i.e. the total compensation of a Board of Management member in the case of 100% target attainment.

The cap was set at 1.9 times the respective target compensation. This value was chosen to ensure that compensation will not have to be reduced even if both short-term and long-term compensation reach the maximum possible cap. In the event of such a scenario, it can therefore be expected that the total compensation accrued will not exceed the permitted cap, even when fringe benefits are added, the amount of which cannot be precisely determined in advance. A sample calculation is presented below using the compensation of the Chair of the Board of Management serving as of December 31, 2018:

Sample Calculation of Limited Target Compensation for the Chair of the Board of Management

€ thousand	Target value	Achievable value upon maximum payout of both compensation systems
Fixed annual compensation[1]	1,170	1,170
Short-term variable compensation[2]	1,170	2,925
Long-term variable compensation[3]	1,521	3,042
Pension service cost[4]	420	420
Target compensation	**4,281**	
Fringe benefits[5]		100
Total		**7,657**
Limited to 1.9 times the target compensation		**8,134**

1 Fixed compensation of CEO converted to twelve months
2 Target value: 100% of fixed annual compensation
3 Target value: 130% of fixed annual compensation
4 Pension service cost (German Commercial Code) converted to twelve months as CEO
5 Hypothetical assumptions/example

Benefits upon termination of service on the Board of Management

Post-contractual noncompete agreements

Post-contractual noncompete agreements exist with the members of the Board of Management, providing for compensatory payments to be made by the company for the duration of these agreements (maximum of two years). The compensatory payment amounts to 100% of the average fixed compensation in the 12 months preceding termination of service.

Change of control

Agreements exist with the members of the Board of Management providing for severance payments to be made in certain circumstances in the event of a change in control. The amount of the severance payments, including any ancillary benefits, in the case of early termination of service on the Board of Management as a result of a change in control is limited to the value of three years' compensation in line with the recommendation in Section 4.2.3 of the German Corporate Governance Code. Such payments do not exceed the compensation payable for the remaining term of the service contract.

Early termination of service on the Board of Management

The amount of the payments, including any ancillary benefits, made upon early termination of service on the Board of Management is limited to the value of two years' compensation in line with the recommendation in Section 4.2.3 of the German Corporate Governance Code.

Unfitness for work

In the event of temporary unfitness for work, members of the Board of Management continue to receive the contractually agreed compensation. Covestro AG may terminate the service contract early if the member has been continuously unfit for work for at least 18 months and is likely to be permanently incapable of fully performing his or her duties (permanent incapacity to work). A disability pension is paid in the event of contract termination before the age of 60 due to permanent incapacity to work. The amount of this disability pension corresponds to the entitlement accrued on the date of contract termination, taking into account a fictitious period of service between that date and the member's 55th birthday where applicable.

Compensation of the Board of Management for the fiscal year

The following paragraphs report the compensation of the Board of Management of Covestro AG for the fiscal year 2018. The members of the Board of Management of Covestro AG are the same as the members of the Board of Management of Covestro Deutschland AG, which became a subsidiary of Covestro AG on September 1, 2015. Compensation is not paid for the members' work on the Board of Management of Covestro Deutschland AG.

As of May 31, 2018, the Supervisory Board initiated early termination of Patrick Thomas' Board of Management contract by mutual agreement. The outstanding remuneration amount was stipulated in the context of a termination agreement, which categorized him as if he had worked until the regular expiration date of the contract (September 30, 2018). Accordingly, he received the pro-rated fixed compensation for the period from June to

September 2018 in the form of a one-time lump-sum payment amounting to €390 thousand, which was paid out at the end of May 2018. For 2018, a target value of €877 thousand was established as short-term variable compensation under the Covestro PSP (equivalent to a pro-rated amount for nine out of 12 months) and will be paid out on the regular payout date at the end of April 2019 in accordance with the Covestro PSP regulations. The claims arising from the 2016–2019 and 2017–2020 tranches of the Prisma long-term compensation program remain unaffected. A target value of €1,140 thousand was determined for the 2018–2021 tranche (equivalent to a pro-rated amount for 9 out of 12 months). All Prisma tranches will be paid out according to the applicable plan regulations on the respective regular payout date.

In the 2018 reporting period, the aggregate compensation for the members of the Board of Management of Covestro AG totaled €14,337 thousand comprising €4,468 thousand in non-performance-related components and €9,869 thousand in performance-related components.

The following table shows the total compensation of the individual members of the Board of Management who served in 2018 according to the German Commercial Code and DRS 17.

Total Board of Management Compensation (German Commercial Code) for the Reporting Period 2018

€ thousand	Fixed annual compen-sation	Fringe benefits	Short-term variable compen-sation	Longterm variable compen-sation[1]	Aggregate compen-sation
Board of Management members serving as of December 31, 2018					
Dr. Markus Steilemann (Chairman)	916	196	2,346	736	4,194
Dr. Klaus Schäfer	562	35	1,127	736	2,460
Dr. Thomas Toepfer	536	1,717	1,076	938	4,267
Former Board of Management member					
Patrick Thomas	487	19	1,760	1,150	3,416
Total	**2,501**	**1,967**	**6,309**	**3,560**	**14,337**

[1] Fair value when granted

Fixed annual compensation

The fixed compensation of Board of Management members was increased as of January 1, 2018, based on the change in the previous year's consumer price index (1.68% from November 2016 to October 2017).

The fixed compensation of all members of the Board of Management in the reporting period totaled €2,501 thousand.

The fringe benefits for the reporting year 2018 include costs totaling €1,696 thousand in variable compensation paid to Dr. Thomas Toepfer in lieu of compensation from his previous employer to which he was no longer entitled.

Short-term variable compensation

In 2018, the short-term variable compensation for all the members of the Board of Management totaled €6,309 thousand after deduction of the solidarity contribution. The solidarity contribution is made by all employees of the companies covered by the respective agreements with the employee representatives to help safeguard jobs at the German sites. For the 2018 reporting period, the contribution amounted to 0.18% of each member's Covestro PSP award. By resolution of the Supervisory Board, this contribution is also withheld from the Board of Management.

Long-term compensation (Aspire and Prisma)

The total compensation according to the German Commercial Code includes long-term stock-based compensation (Prisma) with a fair value when granted of €3,560 thousand.

In accordance with IFRSs, grants of stock-based compensation with a four-year performance period are therefore expensed at their respective fair values over four years starting with the grant year. The associated expense is a part of compensation according to IFRSs. According to IFRSs, the change in the value of existing entitlements under ongoing tranches granted in prior years must be reported as stock-based compensation. As explained above, however, because the payout amount of all remaining Aspire tranches was frozen based on the 2015 closing price, no change in value occurred under these tranches in the reporting year.

As of December 31, 2018, provisions of €7,203 thousand (December 31, 2017: €7,076 thousand) had been established for long-term compensation payable to members of the Board of Management; former members of the Board of Management accounted for €4,273 thousand (December 31, 2017: €1,491 thousand) of this figure.

Long-term Compensation (IFRS)

	Board of Management members serving as of December 31, 2018						Former Board of Management member					
	Dr. Markus Steilemann (Chairman)		Dr. Klaus Schäfer (Production and Technology, Labour Director)		Dr. Thomas Toepfer (Finance)		Frank H. Lutz		Patrick Thomas		Total	
€ thousand	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Total expenses in the reporting period for long-term compensation[1, 2]	781	216	789	216	–	92	810	209	1,641	418	4,021	1,151

[1] Long-term variable compensation from newly earned entitlements includes the Prisma program from the years 2016, 2017, and 2018 amounting to €2,820 thousand (2017: €3,610 thousand) as well as the Aspire program from the year 2015 amounting to €0 thousand (2017: €267 thousand) because this compensation is earned over a period of four fiscal years. It is stated at its pro-rata fair value in 2017 and 2018.

[2] The previous entitlements from the one-time stock-based Aspire compensation programs of the Bayer Group were frozen on the basis of the 2015 closing price and will therefore not change.

Pension entitlements

The pension service cost recognized for the members of the Board of Management in the reporting year was €966 thousand (previous year: €756 thousand) according to the German Commercial Code, while the current service cost for pension entitlements recognized according to IFRSs was €1,434 thousand (previous year: €1,132 thousand).

Pension obligations are shown in the following table.

The pension service cost differs on account of the different principles applied in measuring the settlement value of pension obligations in accordance with the German Commercial Code and the present value of defined benefit pension obligations in accordance with IFRSs.

Pension Entitlements (German Commercial Code and IFRS)

	German Commercial Code				IFRS			
	Pension service cost[1]		Settlement value of pension obligation as of December 31		Service cost for pension entitlements		Present value of defined pension obligation as of December 31	
€ thousand	2017	2018	2017	2018	2017	2018	2017	2018
Board of Management members serving as of December 31, 2018								
Dr. Markus Steilemann	179	329	815	1,473	310	538	1,571	2,424
Dr. Klaus Schäfer	179	194	2,306	2,884	273	279	3,669	4,200
Dr. Thomas Toepfer	–	121	–	132	–	202	–	201
Former Board of Management member								
Patrick Thomas	398	322	3,864	4,849	549	415	5,082	6,188
Total	**756**	**966**	**6,985**	**9,338**	**1,132**	**1,434**	**10,322**	**13,013**

[1] Including company contribution to Bayer Pensionskasse VVaG or Rheinische Pensionskasse VVaG

Disclosures pursuant to the recommendations of the German Corporate Governance Code

The following tables show the compensation and fringe benefits paid for the 2018 reporting period or the prior-year period, including the minimum and maximum achievable variable compensation, and the allocation of compensation for the reporting period or the prior-year period in the line with the recommendations in the February 7, 2017, version of the German Corporate Governance Code.

Compensation and Benefits Granted for the Reporting Period

€ thousand	Board of Management members serving as of December 31, 2018											
	Dr. Markus Steilemann (Chairman)				Dr. Klaus Schäfer (Production and Technology, Labor Director)				Dr. Thomas Toepfer (Finance)			
	Target value 2017	Target value 2018	Min. 2018	Max.[2] 2018	Target value 2017	Target value 2018	Min. 2018	Max.[2] 2018	Target value 2017	Target value 2018	Min. 2018	Max.[2] 2018
Fixed annual compensation	552	916	916	916	552	562	562	562	–	536	536	536
Fringe benefits	435	196	196	196	323	35	35	35	–	1,717	1,717	1,717
Total	**987**	**1,112**	**1,112**	**1,112**	**875**	**597**	**597**	**597**	**–**	**2,253**	**2,253**	**2,253**
Short-term variable compensation	552	1,170	–	2,924	552	562	–	1,404	–	536	–	1,341
Long-term stock-based compensation (2017–2020 Prisma-tranche)	694[1]				694[1]				–			
Long-term stock-based compensation (2018–2021 Prisma-tranche)	–	736[1]	–	1,460	–	736[1]	–	1,460	–	938[1]	–	1,859
Total	**2,233**	**3,018**	**1,112**	**5,496**	**2,121**	**1,895**	**597**	**3,461**	**–**	**3,727**	**2,253**	**5,453**
Benefit expense	310	538	538	538	273	279	279	279	–	202	202	202
Total compensation	**2,543**	**3,556**	**1,650**	**6,034**	**2,394**	**2,174**	**876**	**3,740**	**–**	**3,929**	**2,455**	**5,655**

[1] Fair value when granted
[2] Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation.

Compensation and Benefits Granted for the Reporting Period

€ thousand	Former Board of Management member			
	Patrick Thomas			
	Target value 2017	Target value 2018	Min. 2018	Max.[2] 2018
Fixed annual compensation	1,150	487	487	487
Fringe benefits	70	19	19	19
Total	**1,220**	**506**	**506**	**506**
Short-term variable compensation	1,150	877	–	2,193
Long-term stock-based compensation (2017–2020 Prisma-tranche)	1,447[1]			
Long-term stock-based compensation (2018–2021 Prisma-tranche)		1,150[1]	–	2,281
Total	**3,817**	**2,533**	**506**	**4,980**
Benefit expense	549	415	415	415
Total compensation	**4,366**	**2,948**	**921**	**5,395**

[1] Fair value when granted
[2] Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation.

Allocation of Compensation for the Reporting Period

	Board of Management members serving as of December 31, 2018						Former Board of Management member	
	Dr. Markus Steilemann (Chairman)		Dr. Klaus Schäfer (Production and Technology, Labor Director)		Dr. Thomas Toepfer (Finance)		Patrick Thomas	
€ thousand	2017	2018	2017	2018	2017	2018	2017	2018
Fixed annual compensation	552	916	552	562	–	536	1,150	487
Fringe benefits	435	196	323	35	–	1,717	70	19
Total	**987**	**1,112**	**875**	**597**	**–**	**2,253**	**1,220**	**506**
Short-term variable compensation	1,279	2,346	1,279	1,127	–	1,076	2,664	1,760
2013–2016 Aspire-tranche[1]	103[2]	–	223[2]	–	–	–	978	–
2014–2017 Aspire-tranche[1]		98[2]		130				609
Total	**2,369**	**3,556**	**2,377**	**1,854**	**–**	**3,329**	**4,862[3]**	**2,875[3]**
Benefit expense	310	538	273	279	–	202	549	415
Total compensation	**2,679**	**4,094**	**2,650**	**2,133**	**–**	**3,531**	**5,411**	**3,290**

[1] The depicted inflow from the respective tranches of the one-time stock-based Aspire compensation program of the Bayer Group will take place in the payout year. The payout itself was made for a performance period that mostly occurred prior to the start of the Board of Management term.
[2] Payment was made partially outside Germany in local currency on the basis of a theoretical net salary in Germany.
[3] In addition, Patrick Thomas received a payout of the long-term stock-based compensation in the form of virtual Bayer shares in the amount of €959 thousand (2017: €164 thousand) in his capacity as subgroup CEO in the Bayer Group for the 2014 and 2013 fiscal year, respectively.

In 2018, the former Management Board member Frank H. Lutz received a payment of €186 thousand for the 2014–2017 tranche of the long-term compensation program Aspire.

Compensation of former members of the Board of Management

In 2018, former members of the Board of Management received aggregate compensation of €674 thousand. The aggregate compensation included a one-time lump sum payment of €390 thousand for Patrick Thomas and a pro-rata compensation of €284 thousand for the post-contractual noncompete clause for Frank H. Lutz that was limited to one year. For current pensions, a provision of €668 thousand is recognized in the consolidated financial statements as of December 31, 2018, for Frank H. Lutz. A provision of €465 thousand is recognized for this purpose in the financial statements of Covestro AG.

Compensation of the Supervisory Board

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation.

The members of the Supervisory Board each receive fixed annual compensation of €100 thousand plus reimbursement of their expenses.

In accordance with the recommendations of the German Corporate Governance Code, additional compensation is paid to the Supervisory Board Chair and Vice Chair, and for chairing and membership in committees. The Chair of the Supervisory Board receives fixed annual compensation of €300 thousand, the Vice Chair €150 thousand. The other members of the Supervisory Board are entitled to additional compensation for membership in or chairmanship of committees. The Chair of the Audit Committee receives an additional €50 thousand, the other members of the Audit Committee €25 thousand each. The chairs of the remaining committees receive €30 thousand each, the other members of those committees €20 thousand each. No additional compensation is paid for membership in the Nominations Committee. Work on committees will be considered for no more than two committees. receives compensation only for the two committees with the highest compensation. If changes are made to the Supervisory Board and/or its committees during the year, members receive compensation on a pro-rated basis. The members of the Supervisory Board also receive an attendance fee of €1 thousand each time they personally attend a meeting of the Supervisory Board or acommittee. The attendance fee is limited to €1 thousand per day.

The members of the Supervisory Board gave a voluntary commitment that they will each purchase Covestro shares for 25% of their fixed compensation, including any compensation for committee membership (before taxes) and hold these shares for as long as they remain members of the Supervisory Board. Following in-depth discussions, the Supervisory Board resolved in 2018 to rescind the voluntary commitment to purchase shares in consideration of the insider trading risks associated with stock purchases. Only the obligation to hold previously acquired shares for the duration of membership in the Supervisory Board remains unchanged.

Compensation of the Supervisory Board for the fiscal year

The following table outlines the components of each Covestro AG Supervisory Board member's compensation for the 2018 reporting period and the prior-year period.

Compensation of the Members of the Supervisory Board of Covestro AG

	Fixed compensation		Attendance fee		Total	
€ thousand	2017	2018	2017	2018	2017	2018
Ferdinando Falco Beccalli	100	100	5	4	105	104
Dr. Christine Bortenlänger	100	100	5	5	105	105
Johannes Dietsch	145	145	11	10	156	155
Dr.-Ing. Thomas Fischer[1]	120	–	8	–	128	–
Peter Hausmann	145	145	9	8	154	153
Petra Kronen (Vice Chair)	150	150	12	10	162	160
Irena Küstner	125	125	10	9	135	134
Dr. Ulrich Liman[2]	–	120	–	7	–	127
Prof. Dr. Rolf Nonnenmacher (Chair of the Audit Committee)	150	150	9	9	159	159
Dr. Richard Pott (Chair)	300	300	13	10	313	310
Regine Stachelhaus	120	120	7	5	127	125
Marc Stothfang[3]	89	100	6	5	95	105
Frank Werth	100	100	6	5	106	105
Sabine Wirtz[4]	11	–	–	–	11	–
Total	**1,655**	**1,655**	**101**	**87**	**1,756**	**1,742**

[1] Member of the Supervisory Board until December 2017
[2] Member of the Supervisory Board since January 2018
[3] Member of the Supervisory Board since February 2017
[4] Member of the Supervisory Board until February 2017

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).

No compensation was paid or benefits granted to members of the Supervisory Board for personally performed services such as consulting or agency services. In addition, the company has purchased insurance for the members of the Supervisory Board to cover their personal liability arising from their service on the Supervisory Board. This includes a deductible that is in line with the GCGC recommendation.

Other information

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of either December 31, 2017, or December 31, 2018.

Consolidated Financial Statements of Covestro AG as of December 31, 2018

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, such as 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 comp-rehensive 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

			Changes cashflow not realized			
	Carrying amounts, Dec. 31, 2017	Changes cashflow realized	Changes due to exchange rate movements	Changes in measurement	Other changes	Carrying amounts, Dec. 31, 2018
	€ 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]

FURTHER INFORMATION

Glossary

A

AktG/German Stock Corporation Act
Regulates the legal provisions pertaining to German stock corporations

ADR / American Depositary Receipt
A depositary receipt issued by U.S. banks that documents ownership of a certain number of deposited shares of a foreign company and is traded on U.S. stock markets as representation of the original shares

APAC
Comprises all countries in the Asia and Pacific region in which Covestro is active

C

Capital Employed
Capital employed is the sum of noncurrent and current assets less non-interest-bearing liabilities such as trade accounts payable.

Carbon Productivity
The value generated per carbon unit used (e.g. in the form of fossil raw materials such as coal, oil and natural gas). Measuring carbon productivity is intended to promote a sustainable and optimal use of carbon.

Circular economy
A regenerative economic system in which resource input, waste production, emissions and energy consumption are minimized based on long-lasting and closed material and energy cycles

Core volume growth
Core volume growth 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.

Corporate Social Responsibility
The responsibility companies assume for and the actions taken as a result of the effects of their activities on environmental and social well-being

Covestment
Stock participation program in which approximately 75% of all employees worldwide can acquire Covestro shares at a discount

D

DCGK/German Corporate Governance Code
A set of regulations compiled by the Government Commission on the German Corporate Governance Code in respect of responsible corporate governance, which contains recommendations and suggestions for the management and oversight of listed corporations in Germany

DRS/German Accounting Standards
Pronouncements of the German Accounting Standards Committee e. V., which substantiate the HGB requirements in reference to the application of the Group accounting principles

Due diligence
Investigation and analysis of a company, especially in respect of its economic, legal, tax and financial position

E

Earnings per share
Net income divided by the weighted average number of outstanding shares in the reporting period

EBIT/earnings before interest and taxes
Income after income taxes plus financial result and income tax expense

EBITDA/earnings before interest, taxes, depreciation and amortization
EBIT plus depreciation and amortization of property, plant, equipment, and intangible assets

EHS/environment, health and safety
Environment, health and safety

EMLA
Comprises all countries in Europe, the Middle East, Africa and Latin America (excluding Mexico) in which Covestro is active

EURO STOXX 50®
A European stock index that tracks the performance of the 50 most important and most actively traded companies in the eurozone

F

FOCF/free operating cash flow
Operating cash flows (pursuant to IAS 7) less cash outflows for additions to property, plant, equipment and intangible assets

G

GHG Protocol/Greenhouse Gas Protocol
International accounting system for greenhouse gas emissions developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD)

GPS/Global Product Strategy
Initiative of the International Council of Chemical Associations (ICCA) with the aim of anchoring uniform global standards for product safety in the chemical industry

GRI/Global Reporting Initiative
Guidelines for the preparation of sustainability reports by companies, governments and nongovernmental organizations (NGOs)

H

HDI/hexamethylediisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

HGB/German Commercial Code
Comprises much of the German accounting legislation

HSEQ/health, safety, environment, quality
Health, safety, environment and quality

I

IAS/International Accounting Standards
International accounting standards as endorsed by the European Union

IASB/International Accounting Standards Board
The International Accounting Standards Board is an independent, private-sector body that develops and approves the International Financial Reporting Standards (IFRSs).

ICS/internal control system
Internal control system to ensure compliance with directives by means of technical and organizational rules

IDW/Institut der Wirtschaftsprüfer in Deutschland e. V.
A professional association of German Public Auditors and German Public Audit Firms that represents the interests of its members and supports their work

IFRSs/International Financial Reporting Standards
International accounting standards as endorsed by the European Union

IPDI/isophorone diisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

L

LoPC/loss of primary containment
Leaks of chemicals in amounts above defined thresholds leaking from their primary containers, such as pipelines, pumps, tanks and drums

LTRIR/lost time recordable incident rate
Rate of the reportable workplace accidents to days of absence

M

MDI/diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

N

NAFTA
Region comprising the United States, Canada and Mexico in which Covestro is active

Net financial debt
Interest-bearing liabilites (excluding pension obligations) less liquid assets

Net income
Income after income taxes that is attributable to the stockholders

NOPAT/net operating profit after taxes
Operating result (EBIT) after taxes

P

PMDI/Polymeric diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

PO/propylene oxide
A chemical compound from the class of epoxies used in the production of polyurethanes

Prisma
Prisma is a stock-based compensation program with a four-year performance period for senior executives and other managerial employees.

PSP/Profit Sharing Plan
Covestro PSP is the Group's short-term variable compensation system. It is based exclusively on the target achievement of the relevant Covestro performance indicators (core volume growth, FOCF, ROCE).

R

REACH Regulation
Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No. 1907/2006 which came into force in 2007 and harmonizes EU chemicals legislation

Responsible Care initiative
Initiative by the German Chemical Industry Association (VCI) aimed at continuously improving health, environmental protection and safety in its member states

RIR/recordable incident rate
Total number of workplace accidents per 200,000 working hours

ROCE/return on capital employed
Ratio of operating result after taxes to the capital employed

S

Stakeholders
Internal and external interest groups which are directly or indirectly impacted by the company's corporate activities and/or may be so in the future

STOXX® Europe 600 Chemicals
A sector index provided by STOXX®. The STOXX® Europe 600 is comprised of 600 companies across Europe.

T

TDI/toluylene diisoycanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams and coating systems

TfS/Together for Sustainability
An initiative undertaken by various companies in the chemical industry to standardize supplier assessments globally in order to improve sustainability practices in the supply chain

U

UN Global Compact
The world's largest responsible corporate governance initiative. The member companies undertake to implement ten universal principles and regularly document their progress.

V

VC/value contribution
The difference between the operating result after taxes and the cost of capital. A positive value contribution means that value has been created.

VCI/Verband der chemischen Industrie – German Chemical Industry Association
German chemical industry association

W

WACC/weighted average cost of capital
Weighted average cost of capital reflecting the expected return on the company's equity and debt capital

World-scale plants
Covestro defines world-scale plants in terms of their permitted production capacity in kilotons per year:

- TDI plants from 300 kilotons per year
- MDI plants from 400 kilotons per year
- Polyether polyol plants from 300 kilotons per year
- Polycarbonate plants from 240 kilotons per year
- HDI plants from 40 kilotons per year

Segment and Quarterly Overview

Segment Information 4th Quarter

	Polyurethanes[1]		Polycarbonates		Coatings, Adhesives, Specialties[1]		Others/Consolidation		Covestro Group	
	4th quarter 2017	4th quarter 2018	4th quarter 2017	4th quarter 2018	4th quarter 2017	4th quarter 2018	4th quarter 2017	4th quarter 2018	4th quarter 2017	4th quarter 2018
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**1,876**	**1,597**	**939**	**924**	**529**	**534**	**178**	**217**	**3,522**	**3,272**
Change in sales										
Volume	+6.9%	+2.5%	+5.2%	+4.2%	−2.1%	+0.3%	+3.8%	+7.1%	+4.6%	+2.9%
Price	+26.2%	−17.6%	+13.1%	−2.3%	+3.1%	0.0%	+7.6%	+14.0%	+17.4%	−9.3%
Currency	−5.8%	+0.2%	−5.6%	+0.3%	−4.3%	+0.6%	−2.2%	+0.8%	−5.3%	+0.3%
Portfolio	0.0%	0.0%	0.0%	−3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	−1.0%
Core volume growth[2]	**+5.3%**	**+2.3%**	**+3.7%**	**+1.6%**	**−1.0%**	**−1.8%**			**+4.2%**	**+1.7%**
Sales by region										
EMLA	787	678	315	301	241	240	132	168	1,475	1,387
NAFTA	442	474	206	200	111	129	42	45	801	848
APAC	647	445	418	423	177	165	4	4	1,246	1,037
EBITDA	**612**	**111**	**213**	**133**	**80**	**63**	**(26)**	**(14)**	**879**	**293**
EBIT	**529**	**27**	**169**	**88**	**56**	**39**	**(26)**	**(14)**	**728**	**140**
Depreciation, amortization, impairment losses and impairment loss reversals	**83**	**84**	**44**	**45**	**24**	**24**	**–**	**–**	**151**	**153**
Operating cash flows	**595**	**393**	**245**	**235**	**142**	**107**	**(92)**	**(94)**	**890**	**641**
Cash outflows for additions to property, plant, equipment and intangible assets	**126**	**171**	**74**	**70**	**37**	**36**	**(2)**	**1**	**235**	**278**
Free operating cash flow	**469**	**222**	**171**	**165**	**105**	**71**	**(90)**	**(95)**	**655**	**363**

1 All 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.
2 Reference values calculated based on the definition of the core business effective March 31, 2018

Segment Information Full Year

	Polyurethanes[1]		Polycarbonates		Coatings, Adhesives, Specialties[1]		Others/Consolidation		Covestro Group	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**7,386**	**7,362**	**3,737**	**4,051**	**2,327**	**2,361**	**688**	**842**	**14,138**	**14,616**
Change in sales										
Volume	+3.5%	+0.9%	+7.1%	+3.8%	+1.8%	+3.5%	+4.1%	+5.6%	+4.3%	+2.3%
Price	+28.2%	+1.9%	+8.0%	+9.7%	+1.3%	+0.6%	+4.2%	+18.1%	+16.1%	+4.5%
Currency	–1.8%	–3.1%	–1.8%	–3.4%	–1.1%	–2.6%	–0.6%	–1.3%	–1.6%	–3.0%
Portfolio	0.0%	0.0%	0.0%	–1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	–0.4%
Core volume growth[2]	**+3.1%**	**+0.8%**	**+5.0%**	**+3.0%**	**+1.5%**	**+2.5%**			**+3.4%**	**+1.6%**
Sales by region										
EMLA	3,147	3,182	1,241	1,347	1,085	1,117	524	638	5,997	6,284
NAFTA	1,868	1,947	874	817	510	519	146	186	3,398	3,469
APAC	2,371	2,233	1,622	1,887	732	725	18	18	4,743	4,863
EBITDA	**2,179**	**1,763**	**853**	**1,036**	**486**	**464**	**(83)**	**(63)**	**3,435**	**3,200**
EBIT	**1,826**	**1,412**	**672**	**861**	**396**	**371**	**(86)**	**(64)**	**2,808**	**2,580**
Depreciation, amortization, impairment losses and impairment loss reversals	**353**	**351**	**181**	**175**	**90**	**93**	**3**	**1**	**627**	**620**
Operating cash flows	**1,352**	**1,386**	**476**	**654**	**336**	**309**	**197**	**27**	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets	**276**	**414**	**155**	**186**	**87**	**106**	**–**	**1**	**518**	**707**
Free operating cash flow	**1,076**	**972**	**321**	**468**	**249**	**203**	**197**	**26**	**1,843**	**1,669**

[1] All 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.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

Quarterly Overview

	1st quarter 2017	2nd quarter 2017	3rd quarter 2017	4th quarter 2017	1st quarter 2018	2nd quarter 2018	3rd quarter 2018	4th quarter 2018
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**3,586**	**3,498**	**3,532**	**3,522**	**3,779**	**3,863**	**3,702**	**3,272**
Polyurethanes[1]	1,821	1,818	1,871	1,876	1,950	1,966	1,849	1,597
Polycarbonates	954	911	933	939	1,033	1,056	1,038	924
Coatings, Adhesives, Specialties[1]	637	604	557	529	592	629	606	534
Core volume growth[2]	**+8.9%**	**–1.7%**	**+2.6%**	**+4.2%**	**0.0%**	**+4.4%**	**+0.2%**	**+1.7%**
EBITDA	**846**	**848**	**862**	**879**	**1,063**	**985**	**859**	**293**
Polyurethanes[1]	468	549	550	612	637	583	432	111
Polycarbonates	232	197	211	213	303	285	315	133
Coatings, Adhesives, Specialties[1]	160	121	125	80	136	139	126	63
EBIT	**688**	**687**	**705**	**728**	**907**	**826**	**707**	**140**
Polyurethanes[1]	383	454	460	529	547	492	346	27
Polycarbonates	184	152	167	169	260	241	272	88
Coatings, Adhesives, Specialties[1]	136	101	103	56	113	116	103	39
Financial result	**(54)**	**(34)**	**(35)**	**(27)**	**(28)**	**(27)**	**(25)**	**(24)**
Income before income taxes	**634**	**653**	**670**	**701**	**879**	**799**	**682**	**116**
Income after taxes	**469**	**486**	**493**	**569**	**646**	**606**	**497**	**80**
Net income	**468**	**484**	**491**	**566**	**644**	**604**	**496**	**79**
Operating cash flows	**285**	**411**	**775**	**890**	**452**	**517**	**766**	**641**
Cash outflows for additions to property, plant, equipment and intangible assets	**74**	**92**	**117**	**235**	**88**	**153**	**188**	**278**
Free operating cash flow	**211**	**319**	**658**	**655**	**364**	**364**	**578**	**363**

[1] All 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.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

covestro

Financial Calendar

Annual Stockholders' Meeting 2019	**April 12, 2019**
Q1 2019 Interim Statement	**April 29, 2019**
Half-Year Financial Report 2019	**July 24, 2019**
Q3 2019 Interim Statement	**October 28, 2019**

PUBLISHING INFORMATION

Published by
Covestro AG
Kaiser-Wilhelm-Allee 60
51373 Leverkusen
Germany
Email: info@covestro.com

covestro.com

Local Court of Cologne
HRB 85281
VAT No. DE815579850

IR contact
Email: ir@covestro.com

Press contact
Email: communications@covestro.com

Editorial support
Edelman GmbH
Cologne, Germany

Sustainability consultant
FutureCamp Climate GmbH
Munich, Germany

Translation
Leinhäuser Language Services GmbH
Unterhaching, Germany

Design and layout
TERRITORY CTR GmbH
Germany

Annual Report partially produced
by firesys

Printing
Kunst- und Werbedruck
Bad Oeynhausen

Photo credits
Page 1, 2, 3 and inner pages: collage TERRITORY (with elements of Getty Images); Page 5: Denis Ignatov; Page 7: Adobe Stock; Page 8: Marcus Müller-Saran, Adobe Stock; Page 9: Niko Palosuo, Thorsten Schmidtkord; Page 10, 11: Marcus Müller-Saran; Page 12: Dirk Hansen, Bernhard Moll, make/c, Michael Rennertz; Page 13: Benjamin Felis; Page 14: Niko Palosuo, Getty Images/Liao Xun; Page 15: Marcus Müller-Saran, Michael Koczy; Page 16: TERRITORY, Bernhard Moll; Page 17: Robert Seale, LyondellBasell, Sky Pictures/Izak van Maldegem, von der Geest, Bernhard Moll, Armin Stelljes; Page 18: Adobe Stock, TERRITORY; Page 19: Adobe Stock, Thomas Pflaum; Page 20: TERRITORY, Michael Rennertz; Page 21: TERRITORY; Page 22: Pilotchina; Page 23: Pilotchina; Page 24: Niko Palosuo; Page 26: Getty Images, Roy Engelbrecht, TERRITORY; Page 27: Roy Engelbrecht; Page 28: Covestro (Thailand) Co., Ltd.; Page 29: TERRITORY; Page 31: Thorsten Schmidtkord, Maria Schulz; Page 37, 43: Marcus Müller-Saran; Page 49: Michael Rennertz.

Covestro AG
Kaiser-Wilhelm-Allee 60
51373 Leverkusen
Germany
Email: info@covestro.com

covestro.com