

COVESTRO GROUP AT A GLANCE

Company Profile

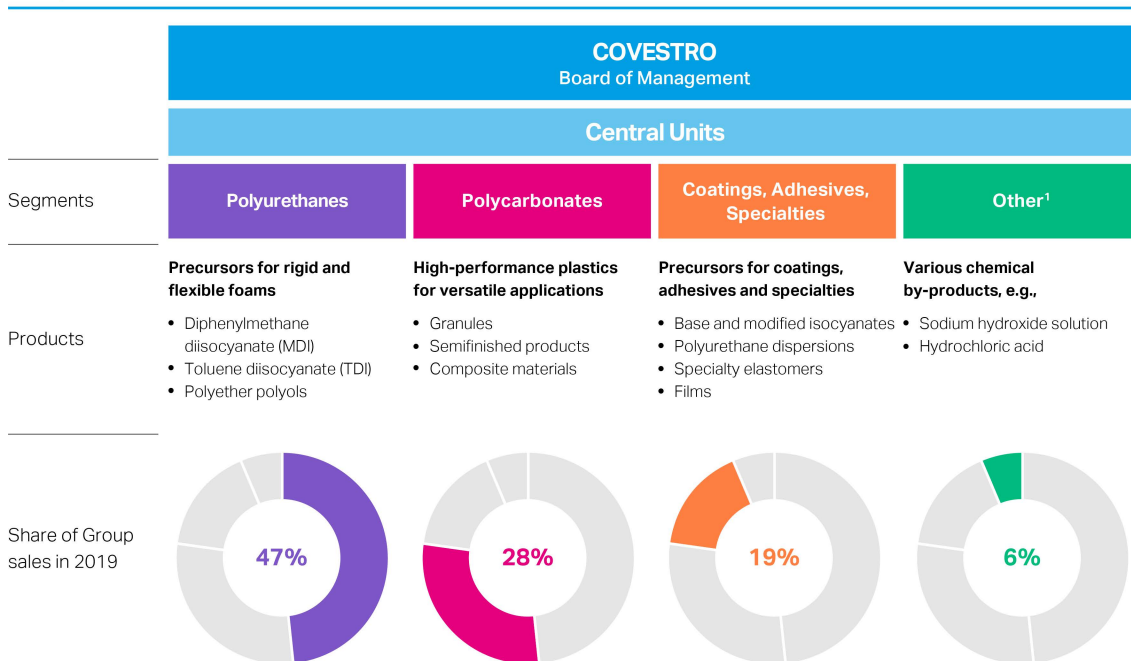
Organization and Business Model

Organization

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 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, 2019, the Covestro Group comprised 47 consolidated companies in 22 countries in addition to Covestro AG and employed around 17,201 employees*.

[See note 5.1 "Scope of consolidation and investments" in the Notes to the Consolidated Financial Statements \(p. 175\)](#)

Group structure



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.

The Board of Management of Covestro AG manages the operational businesses and defines and pursues the corporate goals. Dr. Markus Steilemann has served as the company's Chief Executive Officer (CEO) since June 2018. Dr. Thomas Toepfer acts as Chief Financial Officer (CFO) and, additionally, has been Labor Director since January 2019. The Board of Management member responsible for Production and Technology as well as all production sites is Dr. Klaus Schäfer. Sucheta Govil joined Covestro's Board of Management in August 2019 and is responsible for the three divisions: Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties. She also took over Innovation, Marketing and Sales from Dr. Markus Steilemann, who had previously filled this position on an interim basis in addition to acting as CEO.

* 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.

The 12-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.

 See "Declaration on Corporate Governance" (p. 115)

Business model

Covestro produces 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 product portfolio.

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, electronics and household appliances 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 sustainability and innovation. To this end, we closely monitor developments in our sales and consumer markets and aim to increase our customer base. Together with customers as well as with business and scientific partners, Covestro works continuously to further advance products, technologies and application solutions.

 Additional information is available at: www.covestro.com/en/products

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. Companies like Covestro are facing new challenges and playing a part in developing innovative solutions as a result. 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, more environmentally-compatible and cost-effective materials, Covestro makes significant contributions in areas such as lightweight construction in the automotive industry, increasing the energy efficiency of living spaces through the use of new insulating materials, promoting sustainable energy with specialty raw materials, and improving the shelf-life of food through better insulation along the entire refrigeration chain.

 Additional information is available at: solutions.covestro.com/en/industries

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 polyol, which are used in furniture production, construction and in the automotive industry. TDI-based flexible polyurethane foam is used in products such as mattresses, upholstered furniture and car seats, thus making day-to-day life more comfortable. MDI-based rigid polyurethane foam serves mainly to efficiently insulate buildings and refrigeration appliances. In doing so, it contributes to reduce energy consumption. Covestro was among the top suppliers in the global polyurethane industry in 2019. Our main competitors are BASF, Dow, Huntsman and Wanhua Chemical.

Polycarbonates

In 2019, 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, shatter resistant 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), as well as for medical equipment. Our main competitors include Lotte, Mitsubishi Chemicals, Saudi Basic Industries Corporation (SABIC) and Teijin.

Coatings, Adhesives, Specialties

The CAS segment develops and produces substances that make finished products more aesthetically appealing and durable, and therefore increases their value. The focus is on both aliphatic and aromatic isocyanates, on their derivatives as well as on 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. With more than 2,700 products and some 4,000 customers across the globe in the CAS segment, Covestro was among the world's top suppliers in the reporting period in this area as well. Our main competitors are DSM, Evonik Industries, Vencorex Chemicals and Wanhua Chemical.

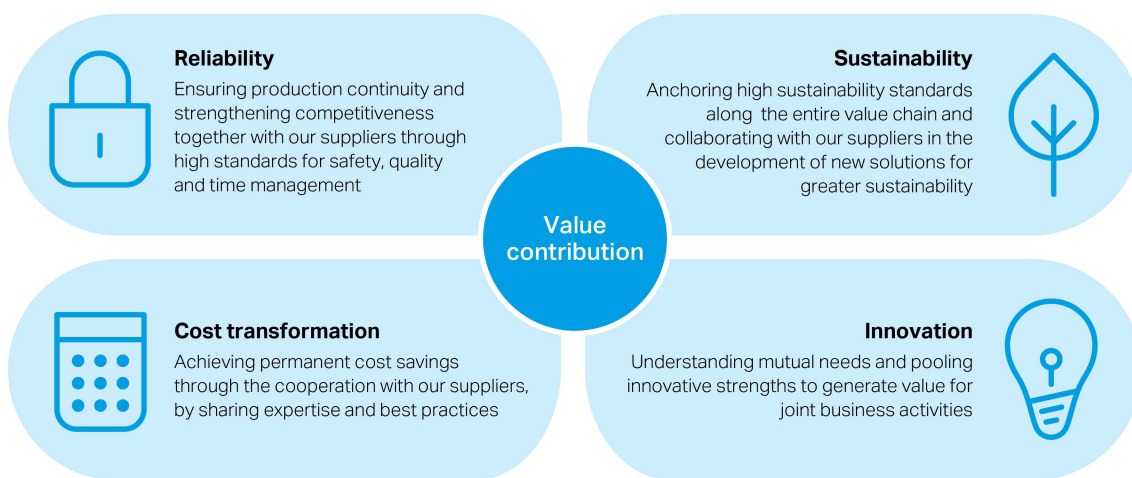
Procurement

Procurement at Covestro is centrally steered and managed by the Procurement unit. Procurement is responsible for the timely global supply of goods and services to all divisions of the company at the best possible market conditions. This ensures that our Group's high quality standards are met. Furthermore, Procurement makes sure that Covestro's ethical and environmental principles are upheld throughout the entire procurement process. The basic tenets of our procurement policy are set forth in a directive that is binding on all employees throughout the Covestro Group.

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. In addition, Procurement promotes the digitalization of purchasing processes and systems in the interest of improving the efficiency and effectiveness of the procurement process for Covestro and its suppliers.

 See "Sustainability in Supplier Management" (p. 66)

Strategic principles in procurement



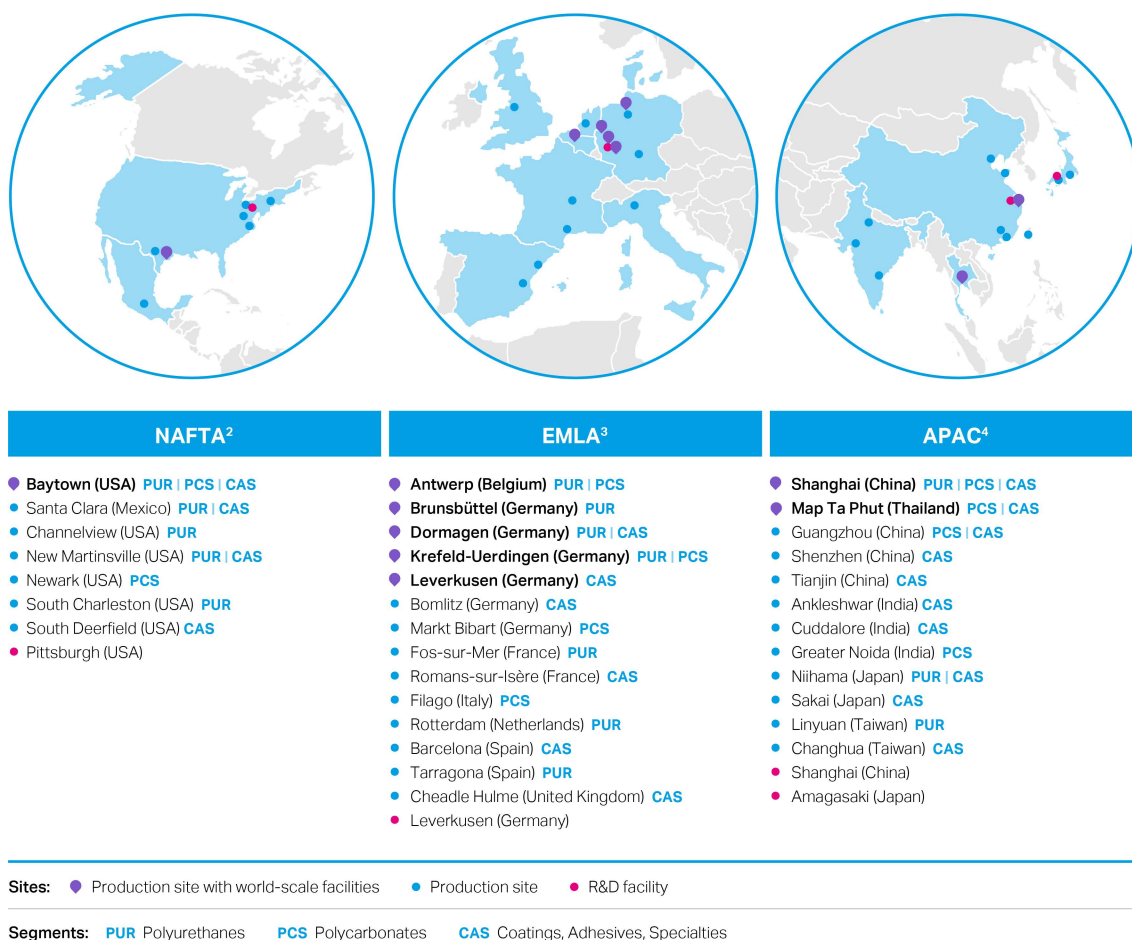
In 2019, goods and services were procured from some 15,000 suppliers (previous year: some 15,500) in 72 countries (previous year: 71) for approximately €9.4 billion (previous year: €10.1 billion). Distribution of purchasing volumes was balanced across the regions.

The main precursors for our products are petrochemical substances such as benzene, toluene, propylene/propylene oxide, phenol and acetone – which collectively account for approximately 35% of our purchasing value. Moreover, the operation of our production facilities requires large amounts of energy, which 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 some chlorine in-house and procures propylene oxide through a joint venture. Apart from raw materials and energy, operations, logistics and investment projects also require technical goods and services. These activities are also centralized by Procurement to add value to Covestro. We regularly monitor the sustainability and quality of our suppliers and ensure that they comply with internal and external standards.

Production sites and R&D facilities

Covestro operates production sites and research and development (R&D) facilities for various product groups throughout the world. The following chart shows the geographical distribution of Covestro's 33 production sites and four R&D facilities.

Covestro production sites and R&D facilities¹



¹ Excluding PCS sheets business and PUR systems house sites

² NAFTA: United States, Canada and Mexico region

³ EMLA: Europe, Middle East, Africa and Latin America (excluding Mexico) region

⁴ APAC: Asia and Pacific region

Covestro has 33 production sites located in Europe, North America and Asia, 8 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 for the Coatings, Adhesives, Specialties segment. Moreover, we operate production plants in selected countries where we compound polycarbonate resins to meet specific customer requirements.

Thanks to the integration of upstream production stages (backward integration), e.g., in its own production of chlorine, Covestro has continually optimized value creation. In addition, Covestro has put in place wide-ranging initiatives to secure and steadily improve performance in the areas of safety, costs and plant availability.

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.

 See "Cash flows from investing activities" (p. 89)

Covestro conducts research and development at three major centers in Germany, North America and China. Customer-facing applications are generally developed in the relevant regions, while global, fundamental research and technology development is mainly conducted in Germany. We also operate a R&D facility in Japan that concentrates on the Japanese market. Covestro's global presence allows us to respond to regional trends and customer requirements.

Marketing and sales

Industry-specific marketing and sales teams are responsible for building potential business with prospective and existing customers and continually analyzing markets and trends. Each operational reporting segment markets and distributes its own products through its own sales organization as well as through trading houses and local distributors. Major customers with global operations are an exception to this, as these are serviced directly by our key account managers. Marketing is conducted in close cooperation between the marketing, sales and application development teams. Chemical by-products such as sodium hydroxide solution are marketed primarily outside of the operational reporting segments. One exception is the by-product styrene, which is marketed directly by the PUR segment.

The central management of marketing activities in the Central Marketing function, which was reorganized in 2019, unlocks opportunities for us to tailor our products and services worldwide even more specifically to our customers' needs. The division provides support to operations with new marketing approaches, digital applications and innovative services. This allows us to continually improve workflows in marketing and marketing communications. We conduct extensive dialogue with our customers to determine their needs in order to best leverage the opportunities emerging from current trends and developments, such as digitalization, sustainability and the circular economy, and to increase value.

Three regional Supply Chain Centers for the EMLA, NAFTA and APAC regions support efficient order processing by providing assistance to our customers and processing sales orders – from order acceptance through shipment planning, to invoicing and complaint acceptance. Customer-oriented support in the individual regions allows us to process orders especially quickly and seamlessly. Covestro makes use of channels such as e-commerce platforms for receiving and processing orders. Our customers can place orders and check the status of their orders at any time in the Order@Covestro self-service portal.

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 to us. 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 CO₂ emissions in particular. Customers are supplied from close-to-production warehouses, wherever permitted by transportation times and delivery reliability. In the case of longer distances and depending on the reliability of the mode of transport, our products are temporarily stored in regional distribution centers and then dispatched from there 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 consider 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. We modified our methodology for measuring and analyzing customer complaints this year, which also led to a change in the baseline for 2018 from 6.72 complaints per 1,000 deliveries to 5.15. In the reporting period, we only received 4.57 customer complaints per 1,000 deliveries, a reduction of 11%. In our effort to improve and accelerate complaint processing, we also hired additional staff, trained employees on how to improve the effectiveness of responses to customers, and surveyed customers on their experience with how their input was handled.

Strategy

Principles guiding our actions

Purpose and mission

The world is facing tremendous global challenges, including advancing climate change, increasing mobility, a growing global population, and rising urbanization. Covestro is facing these challenges, uniting business success with sustainability. The goal is to realize Covestro's purpose: to make the world a brighter place.

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, develop alternative building blocks for our chemicals that are either omnipresent or far more sustainable.

The targeted development represents a key step in the path toward achieving an economic system that focuses on circularity. For Covestro, the circular economy primarily means finding efficient solutions so that products and materials are returned to the value cycle at the end of their use phase – as a whole, in the form of polymers or in molecular form. Throughout the process, we consider our entire portfolio to create new value from products and materials.

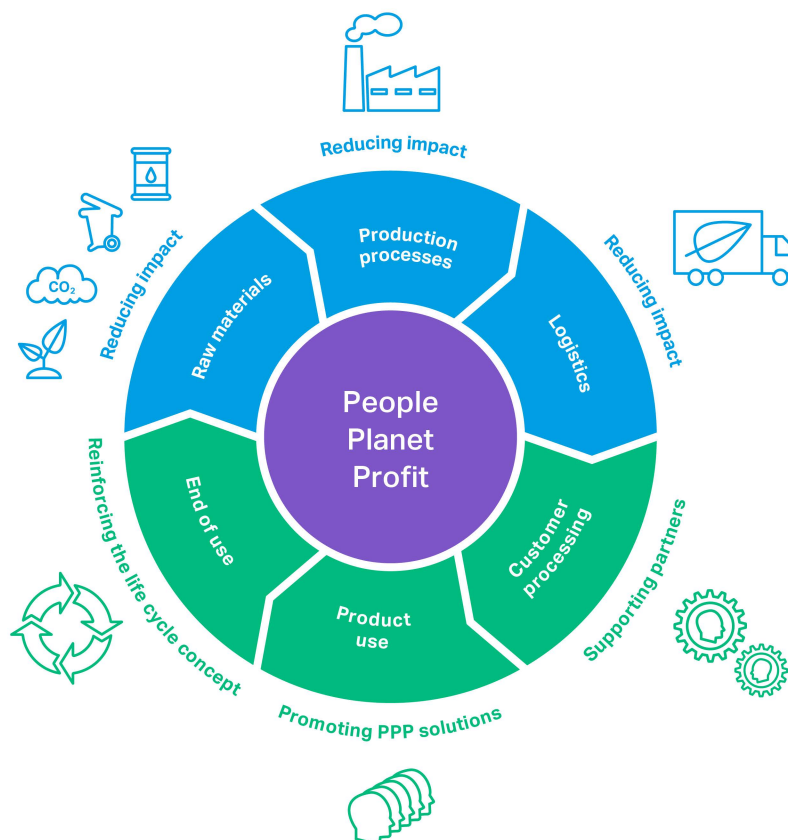
Therefore, we will conduct in-depth research into various recycling options in the coming years, based on our experience in chemistry and our innovative strength. Our goal is to bring these to market readiness as soon as possible. In addition to mechanical recycling, we are promoting the development of chemical and thermo-chemical procedures.

In this regard, we constantly pursue the goal of utilizing carbon within an optimally closed loop. In doing so, we aim to reduce CO₂ emissions and the use of resources throughout the entire value cycle. We are confident that our focus on circularity will produce long-term economic and environmental benefits. Chances for us arise, for example, from new business models, additional sales opportunities and close cooperation with our customers. Moreover, this strategic focus underscores our commitment to creating sustainable solutions for meeting the challenges of the future.

 See "Circular Economy" (p. 72)

In keeping with our purpose of making the world a brighter place, we want to make an equal contribution to increasing Covestro's overall value at social, environmental and economic levels. Our decisions and our actions always take into account the three Ps of sustainability: people, planet and profit. We 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. Covestro considers every decision, every action we take and the resulting consequences holistically, that is, throughout the entire value chain or value cycle.

Covestro's sustainability formula



Corporate values, corporate culture and corporate policies

Covestro is proud of its corporate values, summarized as C³: curious, courageous and colorful. Curiosity triggers deeper thinking and allows us to create innovative and unexpected solutions for our customers. Courage helps us identify opportunities where others see limitations. Diversity promotes employee engagement and creativity; multiple viewpoints make us successful. These values guide all of the Group's employees and are reflected in their daily thoughts and actions. We have also defined Covestro conduct guidelines in order to make the C³ values a more integral part of our employees' work life.

The corporate culture is a key strategic pillar for Covestro and is based on the company's values and conduct guidelines. Moreover, a culture firmly rooted in the company enables the implementation of the strategy, therefore enabling the company's long-term success.

The corporate culture is influenced by all 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 clearly defined: We want values-based leadership driven by mindset as well as corporate values that enables employees to reach their fullest potential and channel it into achieving success for the company. We also ensure that our employees possess the necessary decision-making authority and that the work and safety conditions in place meet our high standards.

The key principles guiding our actions have also been laid down in six policies applicable throughout the Covestro Group. These provide our employees with guidance in the areas of value creation, sustainability, innovation, human resources, HSEQ (Health, Safety, Environment and Quality) and compliance. The standards these contain are mandatory for all employees worldwide and provide the framework for all of our activities. Where required, further detail is provided with more specific guidelines on particular topics.

 Additional information is available at: www.covestro.com/en/sustainability/service-downloads/policies-commitments

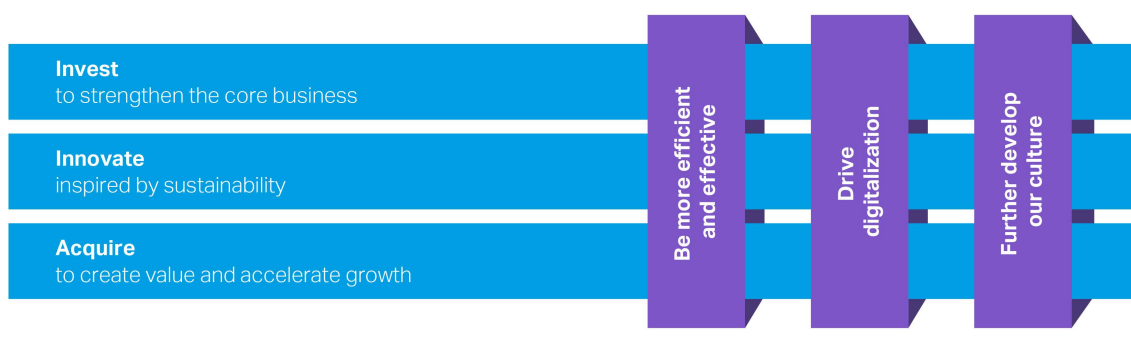
Strategic goals and activities

Group strategy

"To make the world a brighter place" is our overarching goal in line with our purpose. To this end, Covestro provides innovative products, technologies and application solutions. Our activities are aligned with the UN Sustainable Development Goals (SDGs) in support of global progress in environmental, economic and social issues. Experts agree that these goals have significant economic potential and could lead to profound changes and above-average growth worldwide 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 continue to see strong growth in its core markets and plans to optimally leverage this development to our benefit. We will therefore further expand production capacities in our core lines of business and, to this end, invest in excess of the depreciation level in the years to come. As a rule, this applies to production facilities across all product groups and at all major sites. We are adding the skilled staff and resources required to ensure optimal technical implementation of corresponding projects.

Innovating to promote greater sustainability

Sustainability is a central concern, and it shapes our activities along the entire value chain. We consider sustainability particularly as an economic opportunity benefiting all interest groups. In the years to come, we 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 R&D projects oriented toward the SDGs and the requirements of the circular economy.

 See "Sustainability strategy" (p. 44) and "Circular Economy" (p. 72)

Acquiring to create value and accelerate growth

We are actively reviewing acquisition options in order to strengthen our portfolio. Acquisitions 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 – with regard to our stockholders – whether they increase Covestro's enterprise value and the impact they may have on other stakeholders. Furthermore, acquisitions must also suit our existing lines of business, our entire company and our corporate culture. Our acquisition strategy also includes investing in start-ups. In this respect, we also ensure that we can contribute to the development of the company, which extends beyond making a financial investment.

 See note 5.1 "Changes in the scope of consolidation" in the Notes to the Consolidated Financial Statements (p. 175)

Becoming more efficient and effective

To increase effectiveness and efficiency throughout the entire company, Covestro rolled out a Group-wide performance program in 2018 entitled Perspective. 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.

Driving digitalization

With an extensive program, we aim to increasingly take advantage of the opportunities arising from digitalization. To achieve this goal, Covestro anchors digital technologies and work activities in production, along the supply chain, in research and development, in administrative functions and at all points of contact with the customer.

 See "Use of digital technologies" (p. 49)

Further developing 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, for example. Influenced by the responsible conduct of our managers, our culture provides our employees with the framework for their day-to-day activities and ensures that all employees internalize our C³ values by integrating Covestro's newly defined conduct guidelines into their everyday activities. 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.

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 SDGs, 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 on increasing efficiency through cost management as well as product and process innovations. To achieve this, we are continually evaluating the potential for optimizing facilities and sites. In addition, we plan to develop new business models and improve existing ones.

Polycarbonates

New forms of mobility call for innovative solutions. In the Polycarbonates segment (PCS), we are continually improving our product portfolio to address these new requirements. 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 materials requirements, particularly in the automotive, 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 areas. With its distinct application expertise and global alignment, the segment should grow at a higher rate than that of the global economy.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties (CAS) segment specializes in manufacturing precursors for coatings and adhesives that are used in sectors such as the automotive, construction and furniture industries. 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 customer-oriented product development. 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.

Our specialties business produces high-quality films, specialty elastomers and precursors for cosmetics, textiles and medical products. As in past years, Covestro also plans to grow at an above-average rate in this area 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.

Sustainability strategy

With increasing urgency, some segments of the public are demanding sustainable solutions to acute global problems such as advancing climate change. People expect industry to adapt business activities and ensure they are set up to be sustainable. On the one hand, this trend will increase demands on our business practices. On the other hand, it also unlocks new business opportunities. We intend to master both challenges while also equally taking into account all three dimensions of sustainability: people, planet and profit.

Leveraging business opportunities

We are continually replacing conventional products with sustainable solutions. To this end, we developed an assessment methodology that was integrated into our innovation portfolio management system this reporting period. This methodology is now applied to all new projects without exception and enables us to identify all kinds of approaches, including unusual and novel ones, that help our products and technologies contribute to meeting the SDGs. Examples are solutions such as solar dryers or sanitation systems for developing regions.

☞ See "Innovation" (p. 49) and "Inclusive Business" (p. 75)

We intend to also focus particularly on the necessary conditions for facilitating innovation in a number of key strategic issues. One example is the circular economy, which will bring major opportunities for the plastics industry in the long term, as well as harboring risks. We will identify particular action items to focus on advancing further in line with a strategy program launched in the 2019 reporting period.

☞ See "Circular Economy" (p. 72)

Optimizing business practices

Continually maintaining our sophisticated existing management systems is a key priority for garnering societal acceptance for the continuation of our business activity (license to operate). Examples are safety, environmental protection and product stewardship systems. We also proactively address new and increased requirements in various areas and work on continually improving Covestro. A particular focal point in the year under review was due diligence on human rights. We also made progress on a systematic approach to water risks by implementing our risk-based water approach at all sites exposed to major risks relating to water availability, quality or accessibility.

☞ See "Environmental Protection" (p. 63) and "Due diligence on human rights" (p. 74)

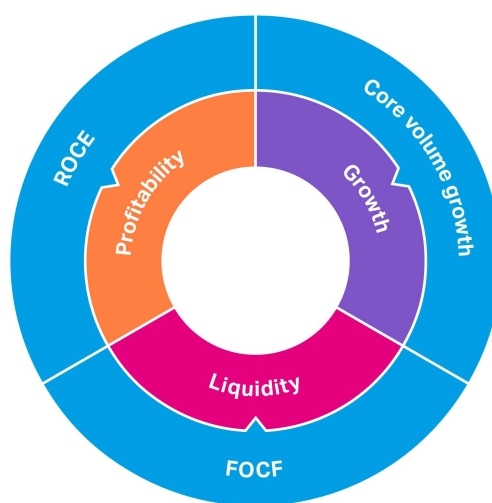
Management

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, liquidity and profitability.

Covestro's key management indicators



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

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 to pay dividends and interest and to repay debt.

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. ROCE is calculated annually at the end of each fiscal year.

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

* 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.

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 areas of growth factors, liquidity and profitability 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

We believe that a major factor in Covestro's success is doing business sustainably. This requires us to integrate sustainability principles into all of our business activities on the one hand, while ensuring that we are sufficiently addressing the issues of greatest relevance to us and our stakeholders on the other hand. Sustainability issues are therefore also integral to corporate governance.

Management and governance

The Sustainability unit advises the divisions by sharing its extensive technical expertise on topics such as life cycle assessment (LCA), human rights and the UN Sustainable Development Goals (SDGs). A network of sustainability officers guarantees access to this expertise for all divisions and all regions in which we operate.

Occupational health and safety and environmental protection are monitored using a Group-wide management system. Support is provided by a centralized team of experts with global responsibility for these issues.

 See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

At least once a year, sustainability and health, safety, environment and quality (HSEQ) are topics discussed at length by the Board of Management. The company's management monitors success, sets priorities and adjusts the allocation of resources when necessary.

Our principles are anchored in internal company policies. They provide concrete specifications on the important issues of value creation, sustainability, innovation, people, HSEQ and 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 attainment are monitored in a management review. Global and local operating procedures for the relevant processes implement the content of company policies and directives in all operating units. 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.

Material topics

Particularly important issues are coordinated Group-wide. We regularly conduct a materiality analysis to identify the sustainability issues most important to Covestro. This process takes into account feedback and opinions from external and internal stakeholders. These results are reviewed in line with our sustainability approach.

 See "Disclosures on Sustainability Reporting" (p. 145)

We analyzed and refined the process for determining and updating the material topics in the reporting period. Our objective is to more closely dovetail this approach with existing processes in other divisions such as Strategy and Risk Management to increase the relevance of the results. The new process will be implemented for the first time in 2020.

The issues identified in the materiality analysis in the previous year were reviewed by an internal committee and modified, where necessary, in the reporting period. This committee was composed of representatives of the Sustainability, HSEQ, Accounting and Compliance divisions.

The review indicated that some identified issues had become more relevant over time. No completely new issues were identified.

The circular economy has become increasingly important in public discussions. When the program on this topic was launched in early 2019, specific action items were identified and approved by the Board of Management that will provide Covestro's strategic direction on this issue.

[See "Circular Economy" \(p. 72\)](#)

The importance of human rights due diligence (HRDD) has increased further in the reporting period. In 2019, we therefore developed a project for establishing a Group-wide framework for HRDD. Covestro plans to systematically implement the recommendations stemming from this project in the coming years. The goal is to further stress the importance of this significant issue in the Group and, where necessary, build the capacity to more quickly address the requirements that will arise in the future.

[See "Due diligence on human rights" \(p. 74\)](#)

As in the previous year, the following issues were rated as having high or very high relevance for internal and external stakeholders:

Innovative solutions for addressing climate change (mitigation and adaption)

The advance of climate change is rising in prominence in public discussions, but the basic questions and challenges have not changed as compared with the previous year. In conjunction with our customers, Covestro continues to work full speed ahead on developing new and refining existing solutions to protect our climate and help people adapt to climate change.

[See "Innovation" \(p. 49\)](#)

Innovative solutions that contribute to the SDGs

As early as 2017, we began aligning our innovation activities more strongly with the SDGs. We validated the assessment methodology we developed, and integrated it into our innovation portfolio management system in the reporting period. It is now applied to all new projects without exception.

[See "Innovation" \(p. 49\)](#)

Product stewardship

Our tried-and-tested system for fulfilling our responsibility regarding safe handling of our products is presented in the "Product stewardship" section.

[See "Product Stewardship" \(p. 69\)](#)

Occupational health and safety

As a company in the chemical industry, we have a special responsibility with respect to safety and health. We manage this responsibility with our integrated HSEQ management system.

[See "Safety" \(p. 60\) and "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" \(p. 59\)](#)

Environmentally efficient operations

The issue of environmental protection at our production and operation sites is another integral part of our integrated HSEQ management system.

[See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" \(p. 59\)](#)

Sustainability in the supply chain

For many years, we have been continually refining and expanding our processes to ensure a sustainable supply chain.

[See "Sustainability in Supplier Management" \(p. 66\)](#)

Operationalization

In 2016, we set targets for key nonfinancial topics. We report on our progress in the relevant sections:

- Our project portfolio for research and development is aligned with the SDGs. By 2025, 80% of project expenditures for research and development will go toward areas that contribute to reaching these goals.
[See "Innovation" \(p. 49\)](#)
- All of our suppliers representing a regular purchasing volume of more than €100,000 per year comply with our sustainability requirements.
[See "Sustainability in Supplier Management" \(p. 66\)](#)
- Specific greenhouse gas emissions per metric ton of product manufactured are expected to be reduced by 50% from the 2005 benchmark by 2025.
[See "Environmental Protection" \(p. 63\)](#)
- We want ten million people in underserved markets to benefit from our solutions by 2025. The goal is to improve their standard of living primarily through affordable housing, sanitation and food security.
[See "Social Responsibility" \(p. 74\)](#)
- Our goal is to extract the maximum benefit from carbon. Increasing carbon productivity enables us to create more value with fewer carbon-based fossil resources. In addition to our efforts toward improving energy efficiency in our production processes, we consider our circular economy activities to be a key factor in this regard.
[See "Circular Economy" \(p. 72\)](#)

Innovation

Innovation is a core element of Covestro's strategy and is part of our identity. 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. We encourage all employees to promote innovation at Covestro.

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

By managing innovation systematically throughout the Group, we ensure that our ongoing and planned activities and our project pipeline always satisfy the needs of our customers as well as user and consumer industries. Covestro 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 working on ideas from all parts of the company. Our company system for submitting suggestions, which is used to manage and track suggestions for improvement, was overhauled from the ground up; the new digital platform has been available to employees in Germany since June 2019.

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.

We seek to align our research and development (R&D) portfolio with the UN Sustainable Development Goals (SDGs) and by 2025 aim to have 80% of project expenditures for research and development go toward areas that contribute to reaching these goals. To this end, we implemented a Covestro-wide assessment process for existing and new innovation projects that will be applied to the entire R&D project pipeline by 2021.

In fiscal 2019, our R&D expenditure amounted to €266 million (previous year: €276 million). As of December 31, 2019, 1,217 employees* worldwide (previous year: 1,123) worked in R&D, most of them at the three major R&D centers in Leverkusen (Germany), Pittsburgh (United States), and Shanghai (China).

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 primarily the intelligent use of data, thus setting new standards in cooperation with customers. We set up a senior-level Digital Governance Body to manage the Covestro-wide portfolio of digitalization projects. This decision-making body will directly implement the strategic program in a target-oriented way. We increasingly anchor digital technologies and work methods in production, along the supply chain, in research and development, in administrative functions 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. In Production and Technology, Covestro conducts a program called "OSI2020" for the digitalization of technical, operational and maintenance-related activities.

* 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.

Covestro recognizes digitalization as a comprehensive ongoing development that includes various priorities and advances at different speeds. We have already used data analysis for a number of years for production processes and continually invest in employees and infrastructure to systematically promote digitalization – thereby improving the efficiency of work and production processes using modern data processing and the intelligent interconnection of systems. A key element of the digitalization strategy was launched when the Covestro Solution Center, a forward-looking portal for our products, went online. This includes new, digital channels of communication with our customers. We are additionally working on the vision and implementation of a comprehensive, customer-centered effort to digitize the entire supply chain.

In 2019, we built on our in-house developed digital trading platform Asellion to launch the Covestro Direct Store, which customers can visit to purchase our standard products. Selected business entities have already entirely or partially shifted their sales to the platform, which is now integrated into the SAP processing system. 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.

In this connection, Covestro is also continuing to ramp up the continuing digitalization of research and development. Key initiatives here are the installation of a supercomputer at the Leverkusen site and the establishment of a company-wide data analysis platform in R&D.

Strategic partnerships and collaborations

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

Academic collaborations

Overview of Covestro's top three university cooperations

University cooperation Important tool for talent recruiting and implementation of innovation strategy Effectiveness and efficiency of R&D	EMEA	 RWTH Aachen University	Focus areas: • Process development • Basic research	Examples: • Chemical catalysis in various projects (CAT Catalytic Center, QuinCAT) • Electrochemistry (endowed professorship)
	NAFTA	 Carnegie Mellon University	Focus areas: • Digital technologies and machine learning • Application development	Examples: • Academia start-up cooperation • Open innovation competitions (Pittsburgh Penguins Make-a-thon, Hackathon)
	APAC	 Tongji University	Focus areas: • R&D projects in electric-vehicle batteries, 3D printing and sustainability • Start-up incubation and talent development	Examples: • Commercialization of developments and industry/academia events • Open innovation competitions (Make-a-thon, Hackathon)

On the industrial side, we are working with start-up companies and established partners that support us in our efforts to develop alternative, non-fossil resources and biobased processes. A prerequisite for making biobased raw materials usable is their direct contribution to resource optimization compared to traditional processes. In 2019, we therefore acquired an equity investment in the Erlangen-based German start-up Hydrogenious LOHC Technologies GmbH in an effort to actively promote the development of an international infrastructure for hydrogen as an alternative source of energy.

Our innovation project aimed at manufacturing biobased aniline is another example of this. We are now able to manufacture the basic chemical aniline, which is important for Covestro, on the pilot plant scale from biomass, rather than following the traditional method using benzene, a raw material based on crude oil. This procedure is the result of cooperation between University of Stuttgart (Germany), the CAT Catalytic Center at RWTH Aachen University (Germany), and Bayer AG, Leverkusen (Germany).

In addition to making alternative biobased raw materials usable in order to improve resource efficiency and expanding the CO₂ technology platform to close the carbon cycles, electrochemical processes represent a good starting point 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 (Germany) and the Jülich Research Center (Germany) to establish the ELECTRA industrial electrochemical competence center.

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.

Innovation in the individual segments

Polyurethanes

In the Polyurethanes (PUR) segment, we are continually working on innovating polyurethane industry products with newly developed materials and process improvements throughout their entire life cycle – particularly core applications comprising rigid and flexible polyurethane foam, and composite materials. Our customers in the household appliances, furniture and automotive industries along with many other sectors can rely on our modern technologies and the highly motivated experts in our global network for developing their applications. The large number of new patent applications for our innovative technologies underscores Covestro's leadership role in the collaboration with other companies in the polyurethane industry.

Furthermore, we develop sustainable, circular approaches to flexible foam applications by working with industrial and scientific partners to continually improve the recycling of flexible polyurethane foam. This represents an important step toward turning polyurethane-based products into potential sources of raw materials for future production. An example of putting this into practice is our participation in the pan-European PReSmart research project, which involves nine companies and academic institutions from six countries.

Covestro is also systematically conducting research in the PUR segment to determine how CO₂ can be used intelligently as an alternative raw material to crude oil. Covestro has developed a new type of polyol for use as a component in flexible polyurethane foam that is manufactured on an industrial scale and contains as much as 20% CO₂. Applications including mattresses and materials for sports flooring containing the product sold under the brand name cardyon® are already on the market.

Furthermore, Covestro is working to expand the technology platform for the future production of molecules and products using CO₂ such as elastic textile fibers. One application in the textile industry is nearly ready for market launch. Our achievements in research into the CO₂ technology and its broad application potential have attracted notice even outside the chemical industry: The innovation made it to the finals of the 2019 German Future Prize awarded annually by the President of Germany.

In fiscal 2019, we also continued to develop and refine flame-retardant insulation materials for the construction industry and further optimize insulation for the refrigeration appliance sector. By continually improving the insulating properties of refrigerators and refrigerated containers, our materials contribute to sustainably optimizing the refrigeration chain in the global food supply.

Moreover, with the help of new, digital technologies, we also significantly increased productivity in the manufacturing of insulating panels and elements, for instance in designing fixed plastic rakes, at our customers in the past fiscal year. Using digital technologies also conserved resources in research and development. We have had initial success in calculating catalysts for new raw materials and their processing.

In terms of state-of-the-art composite elements for automotive industry applications, our improved solutions for filling hollow spaces helped cut noise in the passenger compartment of vehicles.

Our development of novel polyurethane products for infusion technologies is another example of our innovation performance in the past fiscal year. For the first time, Covestro delivered polyurethane raw materials to China for the construction of wind turbines. The polyurethane resin developed and produced by Covestro was used to manufacture rotor blades for wind turbines, which were installed in a wind farm in eastern China.

Polycarbonates

In the Polycarbonates segment (PCS), 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 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 under 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. At K 2019, the world's leading plastics trade fair, we showcased a comprehensive vehicle passenger compartment concept featuring innovative and functional materials solutions addressing current mobility trends such as autonomous driving, electric drives and car sharing.

New applications for polycarbonates and polycarbonate blends for use in the global expansion of the 5G technology were also presented at the K 2019 plastics trade fair. Seamless integration of an expanded network of antennae and base stations into the cityscapes of the future is planned to increase public acceptance of these systems. Covestro is working with university students at the Umeå Institute of Design in Umeå (Sweden) and with Deutsche Telekom AG, Bonn (Germany), to this end. In a pilot project, the partners tested creative design concepts for small 5G antennae and base stations, including adaptation of their color and surface texture. Covestro has also developed a multi-layer film solution made of polycarbonate and polymethyl methacrylate (PMMA) for use in manufacturing 5G-ready smartphones. Thanks to the innovation and a new manufacturing process, the back of the smartphone appears glass-like without being fragile.

In 2019, too, 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 radiolucent disposable surgery instruments more efficiently.

For the electronics industry, our new product portfolio meets customers' stringent standards concerning optical and high-gloss display properties. With 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 our Markt Bibart site, we commercially produce 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 aesthetically pleasing. These composites unlock entirely new design possibilities in key areas such as IT, mobility and consumer products.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment (CAS) serves a large number of specialized industries. Together with our customers and partners, we introduced significant innovations in 2019, focusing on efficiency, sustainability and promoting our specialties.

At the European Coatings Show in Nuremberg (Germany), we introduced a raw material for the first time that increases the efficiency of high-performance coatings with extremely fast curing times. It is already being used commercially by various leading manufacturers, including producers of vehicle repair coatings. Another example is a new generation of automotive production line paints developed by Covestro with a partner consortium of other paint industry companies and leading automobile manufacturers. The new paints are based on Covestro's technologies and materials. In the construction industry as well, speed plays a role, so the parking garages at the new airport in Beijing (China) were coated with a fast-curing formula developed by Covestro. In addition, Covestro also presented water-based crosslinking agents with very fast curing times for use with wood.

We continually work on improving our portfolio of crosslinking and binding agents, which set new standards in occupational safety and industrial hygiene. For instance, in 2019 we developed additional products whose residual monomer content is again lower, therefore making their application even safer. In 2019, we also continued to improve sustainability by promoting biobased raw materials for manufacturing purposes, which help conserve additional resources and improve the user's carbon footprint. Examples of this are three Impranil® eco products for textile coating we developed to contain up to 56% renewable raw materials.

An initial plant-based product for cosmetics under the Baycusan® brand was brought to market by Covestro to meet the growing needs of the cosmetics industry, which gravitates toward natural ingredients. Based on our most recent research findings, we are also marketing polyurethane-based film formers with enhanced biodegradability over conventional raw materials to cosmetics companies.

In a joint research project with the Technical University of Denmark (Danmarks Tekniske Universitet, DTU) and partners from the wind energy industry, our CAS segment is developing a raw material for coatings that is suitable for use during extreme weather.

The area of thermoplastic special elastomers is capitalizing on customized solutions for the electronics industry, such as cell phone cases. Intelligent combinations of materials in the area of specialty films have been developed for security cards and medical technologies in close cooperation with our customers. These set new standards and generate above-average growth.

In the field of additive manufacturing, or 3D printing, Covestro is addressing continually growing demands and successfully pursuing the large-scale production of a material that allows customers to conduct 3D printing on an industrial scale.

Employees

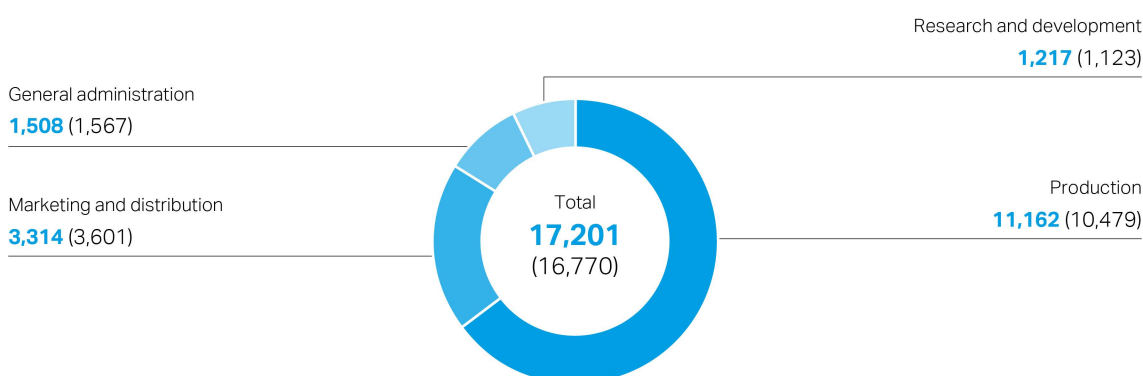
The multifaceted abilities and personal efforts of all employees contribute materially to Covestro's success. Every employee has both the freedom and a mandate to act and contribute in line with the company's goals, values and culture. Covestro thus promotes a working environment that is shaped by unconventional 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, 2019, Covestro had 17,201 employees worldwide (previous year: 16,770). At the reporting date, the Group also had 550 employees in vocational training worldwide (previous year: 541), 531 of whom were based in Germany (previous year: 516).

 See note 9 "Personnel Expenses and Employee Numbers" in the Notes to the Consolidated Financial Statements (p. 183)

Employees by corporate function¹

in FTE (prior-year figure in parentheses)



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.

Human resources profile and focus

Digitalization, demographic change and the trend toward individualization are changing our work and the ways we do it. Our human resources activities focus on the development and implementation of initiatives that sustainably support our business success, while at the same time encouraging the professional development and engagement of individual employees.

Promoting performance and opportunities for individual contributions are priorities, as are building and developing the individual skills and expertise of our workforce for the long term. These activities are founded on leadership and management responsibility in line with Covestro's corporate culture and values. Our leaders set standards for working toward success, developing future-oriented skills and conducting personal interactions based on mutual respect. We treat health and safety in the workplace with very high priority. In addition, we focus in particular on further reinforcing diversity and inclusion.

The Board of Management is regularly involved in setting goals for Covestro's human resources (HR) activities. In terms of its structure and its content, the HR organization is positioned in line with the previously mentioned goals, and together with a global personnel management system, it includes the necessary processes.

Hiring and retaining highly qualified employees

It is a strategic challenge for Covestro to be 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 teams rely increasingly on digital channels. The company reaches out to different target groups worldwide through social media and digital platforms such as LinkedIn and Glassdoor to introduce Covestro as an employer. In order to open up dialogue with our target groups and solicit applications, we now participate in two other important platforms in addition to Facebook: Instagram in Germany and WeChat in China. A major initial step was taken with the launch of career sites in 2018. In the reporting period, this initiative continued: multilingualism was improved by adding languages, and the sites were made easier to find thanks to search engine optimization. In 2019, applicants were again at the center of our recruiting activities. We more firmly integrated our employer brand into Covestro's overall image. These activities, including our global online application management system, were received very well, as indicated by applicant surveys such as the Potentialpark survey.

We engage in numerous activities to maintain our overall attractiveness and significance as an employer brand. In addition, we pursue active HR marketing at all sites to attract employees and count on direct dialogue in the process. To achieve this, we maintain close contacts with leading universities, are involved in international networks of students, and take part in career fairs. Covestro participates in selected initiatives and networks such as the global student association Enactus and the UNITECH International European engineering network. In conjunction with the United Nations Environment Programme, Covestro is the main sponsor of the Young Champions of the Earth initiative. Furthermore, we hold career events, workshops and tours at various Covestro sites. In fiscal 2019, we also advertised career paths at Covestro during the world-class plastics trade fairs K 2019 and Chinaplas, and at video game trade fair Gamescom.

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

We also hold global competitions, award ceremonies and other events to encourage special achievements and outstanding commitment. For example, Covestro was a leading partner company in the Carbon Footprint Challenge 2019, which awarded prizes for ideas for reducing the industrial sector's carbon footprint. This competition was hugely successful. Teams of students from 55 countries submitted over 350 different suggestions featuring ideas for ways to optimize the carbon footprint of processes and products in the future. More than 1,600 Covestro employees reviewed the top 25 ideas in advance, and evaluated and commented on these on an internal idea platform. We are proud that this Covestro-wide project received the 2019 HR Excellence Award in the higher-education marketing category.

As an employer, Covestro again received major awards in the reporting period, such as first place for the second consecutive time in an industry comparison in the Verband angestellter Akademiker und leitender Angestellter der chemischen Industrie e. V. (VAA) study in Germany, first place in Mexico's Súper Empresas 2019, and designations as a Great Place to Work in India, and Top Employer in China. We see this success both as commendation for a good job done and as motivation for the future.

Promoting and developing employees

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, so 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. It holds numerous in-person classes worldwide along with virtual training sessions, each of which focuses on a different target group. Digital transformation through the implementation of Workday Learning and an integrated skills management system for helping employees develop their competencies were in the spotlight in 2019 to support the corporate strategy. The goal is to provide employees with better learning pathways for their continuing education needs and to harmonize educational content globally.

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. Moreover, the requirement profile for top management at Covestro was also refined this year to emphasize the main aspects of leadership behavior expected and to align it more closely with our corporate culture. We have also converted our performance assessment approach into an ongoing dialogue 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 perspectives within the Group are discussed. Managers and employees alike can take the initiative at any time and run a development dialogue 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 dialogue between the employees and management is a key concern for us. 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. In the fourth quarter of 2019, we also launched the ENGAGE initiative worldwide to measure and improve employee engagement. All employees can provide feedback several times a year by filling out a voluntary, anonymous online survey with standardized questions. This is our effort to understand what is important to our employees. Subsequently, the results are discussed by employees and managers, who then collaborate to develop action items to continually improve working conditions. The majority of our workforce participated in the first survey.

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 standard compensation levels in the respective region. Regular compensation benchmarking is conducted to ensure this orientation is maintained for the long term.

Through the Group-wide Covestro Profit Sharing Plan (Covestro PSP) bonus program 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 their employees in regard to our corporate values.

 See note 21 "Other Provisions" in the Notes to the Consolidated Financial Statements (p. 208)

As in previous years, the stock participation program Covestment was once again offered in 2019 and provides employees with the opportunity to purchase Covestro stocks at a discount. In 2019, the program was again expanded to additional countries. Employees in China, France, Japan, Switzerland and Slovakia were given the opportunity to participate for the first time. Around 97% of Covestro employees worldwide now have the chance to acquire Covestro stock at favorable terms and 41% of all eligible employees made use of this right. The participation ratio within the three major countries was 50% in Germany, 33% in the United States, and 59% in China.

Promoting diversity and inclusion

At Covestro we work to make the world a brighter place. For this reason, we promote diversity and inclusion as foundations for innovation and growth. We value differences and advocate for an integrated working environment in which various skills, talents, experiences, and points of view are welcome, and everyone is treated with dignity and respect, both within and outside of our company. It is our firm conviction that a diverse staff and integrated workplace are key drivers of innovation, sustainability and employee engagement, because diverse teams are more creative and are better at decision-making. Diversity and inclusion therefore contribute directly to the continued success of the company. In addition, Covestro has signed the Ten Principles of the UN Global Compact and Germany's Diversity Charter, an initiative under the patronage of Federal Chancellor Dr. Angela Merkel.

Covestro is advancing the topics of diversity and inclusion as an important part of its corporate culture. Targets and an enhanced understanding of diversity and inclusion are being further solidified in global action plans and regional implementation teams. The inclusion of different perspectives results in more balanced decisions and thus contributes substantially to Covestro's success.

Designing 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 designing optimal 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 guidelines and relevant requirements of compliance and labor laws are met.

 See "Integrated Management System for Occupational Health, Safety, Environmental Protection and Quality" (p. 59)

We also offer modern working conditions to our employees, so that they can be successful in a changing working environment and balance their professional and personal interests. In many countries, we exceed our legal obligations, e.g., by offering solutions such as flexible working hours, part-time work and working from home if this is compatible with operational requirements. A direct dialogue 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 particularly ensure safety in the workplace. Our sustainable personnel policy also features a strong social safety net for our employees.

Moreover, Covestro actively raises awareness of healthy lifestyles with a robust committee structure for workplace health management and a range of initiatives and projects tailored to the individual needs of our employees. This is particularly true in regard to the challenges facing us as a result of demographic change, the raising of the retirement age in many countries, and digital transformation.

We offer comprehensive workplace health management that is continuously expanded in response to 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 improved contact and communication

Work environments, contents and working methods are undergoing constant changes due to 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 that promotes flexible ways of working. This applies particularly to cases such as moving into or creating new workspaces. We have already proven at many sites that this flexible working concept is successful, including in Brazil, Hong Kong, Switzerland, Taiwan and Thailand as well as in our new offices in Shanghai (China), which we moved into in early 2019. In addition, a new office building is currently being built in Leverkusen (Germany). It is expected to be completed in 2020 and house 750 employees. Special emphasis at Covestro 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 our C³ way of working, based on our C³ values. At the heart of this philosophy is our conviction that every person, regardless of their place in the hierarchy, requires a suitable working environment to perform their various job duties and to be able to work effectively. As such, we are invested in efforts to promote a change of perspectives and creativity in the company. Open-plan office environments combined with flexible work concepts encourage contact and the exchange of information across team and departmental boundaries and therefore strengthen communication and interdisciplinary cooperation.

Our managers play a special role in this system. In addition to the established leadership standards and modern work methods, they are increasingly called upon to collaborate with their employees to develop flexible and customized solutions to support Covestro's efforts to extract maximum potential from this new work environment.

Protection of People and the Environment

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

Covestro's stated aims are to take preventive measures to protect employees, suppliers and service providers, ensure uninterrupted operations and continually improve quality. The head of the integrated HSEQ management system is commissioned directly by the Board of Management. The integrated management system implemented throughout the Group pertains to the topics of health, safety, environment and quality (HSEQ). The system ensures implementation of the specifications of the HSEQ Group guidelines and is 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 review. 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. In 2019, based on the new ISO standards, it was also successfully reviewed, audited and had its certification upheld by an external certification body. Specific targets in line with the aforementioned ISO standards have been defined. More details on these targets are available in the relevant sections below.

The integrated management system comprises the following three sub-sections:

Occupational health and safety

In the area of occupational health and safety, globally applicable processes and workflows include detailed rules governing the safety of production facilities and manufacturing processes, the investigation of accidents and environmental as well as transportation incidents, health care 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 if needed. These are intended to prevent accidents and incidents at the workplace or on transportation routes that could have adverse consequences for 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

Minimum environmental and energy standards applicable worldwide were specified to ensure that our high standards for resource conservation and emissions reduction are met. These requirements are based on internationally recognized standards and rules such as ISO 14001 (environmental management) and ISO 50001 (energy management). 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 measures throughout the Group. In the year under review, the energy efficiency system we introduced in 2008 based on ISO 50001 was reviewed, audited and had its certification confirmed for the eighth time at the main German production sites by an independent certification body.

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 activities meet the requirements of the current, newly revised ISO 9001:2015 standard. 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.

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 our employees in the workplace and during work-related activities. This also applies to partner companies (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 those who come into contact with our products. In addition, we continued 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.

Occupational health and safety

An integrated information management system (IIMS) implemented throughout the Group exists for reporting and processing work incidents and potential hazards. The classification follows the U.S. OSHA Standard 1904 "Recording and Reporting Occupational Injuries and Illness." The IIMS makes it possible to identify trends in a timely manner 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 root 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 process involves determining a ratio of the number of all recordable incidents (RIR) or those with lost time (LTRIR) compared to the number of hours worked (standardized to 200,000 working hours per year).

We calculate the number of hours our employees work per year by multiplying the Group's headcount by the average annual number of working hours at country level reported by the OECD or other valid sources.

The number of hours worked by our contractors is calculated using a methodology revised in October 2019 that includes various categories for recording working hours. These categories are broken down by electronic or manual timekeeping or are obtained using supplier invoices. The figure can also be calculated based on valid assumptions (estimates). At very small sites with fewer than 50 Covestro employees, no contractor working hours are counted, so these are not included in the RIR calculation. We apply controls and other measures at the global level as well as individual site level to prevent possible errors in calculating contractor working hours. Implementation of the new system will continue in 2020.

Work-related accidents

	2018 ¹	2019
Lost time recordable incident rate (LTRIR)		
in relation to Covestro employees	0.20	0.19
in relation to contractor employees ²	0.10	0.18
Recordable incident rate (RIR)		
in relation to Covestro employees	0.38	0.29
in relation to contractor employees ²	0.24	0.26
Fatal injuries		
in relation to Covestro employees	0	0
in relation to contractor employees	0	0

¹ The figures reported for 2018 are maximum values that are only comparable to the 2019 values to a limited extent.

² Employees of partner companies contracted by Covestro whose accidents occurred on one of our company premises

We continuously work to keep the incidence of accidents as low as possible in the future as well. In recent years, for example, we have developed a comprehensive plan to prevent accidents by contractor employees. It includes measures such as special safety programs for contractor employees and the consistent inclusion of outside companies in ongoing safety activities at our sites. In recent years, we have reached a safety plateau with our own employees. In other words, the accident figures as compared with the previous year show only minor positive or negative changes. We continued the SafeGuard program in 2019 with an eye to breaking through this plateau and ushering in a long-term positive trend. Continuation of the program will help us work toward zero accidents.

In 2019, we again used a defined set of criteria with regard to an event's potential in order to evaluate events which could have led to a High Potential Event (HPE) under other circumstances. These events classified as HPEs are thus treated as comparable with events that have actually occurred; they require a detailed cause analysis and must be communicated. Promoting safety awareness among employees is essential for minimizing hazards during day-to-day operations. A training program based on the experiences of the airline industry, Team Resource Management Training, was developed in 2019 and provided a new way to enhance employee awareness of safety issues. It concentrates on nontechnical skills that affect human behavior and collaboration by teams, including situational awareness, decision-making, communication and stress management.

Furthermore, the CEO Safety Award was awarded for the eleventh time. All employees were once again called upon to submit suggestions for improving safety. The ideas submitted were evaluated by a jury of in-house experts, and Covestro CEO Dr. Markus Steilemann presented awards to the winners at the global Covestro Safety Day in September 2019.

Process and plant safety

We aim to ensure the safety of processes and plants in a way that avoids unacceptable risks to our employees, our neighbors and the environment. We therefore conduct extensive, systematic safety inspections at regular intervals. A globally standardized key performance indicator (KPI), loss of primary containment (LoPC), applies to all Covestro plants and is an early indicator integrated into Group-wide safety reporting.

In 2019, Covestro implemented the German Chemical Industry Association's (Verband der Chemischen Industrie, VCI) November 2017 guidelines on documenting plant safety performance indicators. The new reporting criteria are therefore aligned with the updated and globally harmonized definition by the ICCA (International Council of Chemical Associations). A LoPC event comprises

- the release of chemicals classified according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) within one hour of exceeding the defined volume thresholds;
- a reportable injury according to OSHA criteria to an employee or contractor as a result of product release or the release of energy;
- the release of energy (e.g., fire, explosion) that leads to damage with direct costs totaling more than €2,500;
- an evacuation officially declared outside the plant.

We use the LoPC incident rate (LoPC IR) to determine the number of LoPC incidents per 200,000 working hours per year by Covestro employees and contractors. The considerably lowered volume thresholds mean that less significant incidents will now also be systematically documented and investigated as LoPC events. As expected, this led to an increase in the LoPC IR from 0.35 in the previous year to 0.66 currently, according to the new definition.

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 global exchange of experiences relevant to safety are intended to help maintain the existing high standard of procedural and plant safety within the company. Globally binding standard processes and their uniform implementation also contribute to this effort, which has led to the rollout of a mandatory IT application for technical change management at key production sites.

Environmental and transportation safety

Next to the 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 quantity 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. Global events on transportation safety are held at regular intervals. Here, corrective measures are developed and implemented based on actual incidents and tried-and-tested approaches are exchanged.

Environmental Protection

Environmental protection and the efficient use of resources are fundamental drivers guiding the actions of Covestro as an energy-intensive company, both in terms of our own business activities with substantial energy demand 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, wind turbine operation and electronics sectors, as well as the furniture, sports and textile industries, to improve their own resource efficiency and cut emissions. Environmental protection KPIs are reported for all fully consolidated companies. Since these figures are calculated only at the end of the year, they include the group of companies consolidated as it stands at year-end.

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 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 2019, total energy consumption in the Group increased slightly by 0.3% while equivalent primary energy consumption fell by 1.0%, with a decrease of 0.5% in production volumes. As a result, the equivalent primary energy consumption for a given production volume (energy efficiency) improved by 0.5%. Our continued long-term positive trend indicating an overall 36.0% 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 implemented by Covestro.

Energy consumption in the Covestro Group

	2018	2019
Equivalent primary energy consumption ¹ (TJ)	75,553	74,786
Production volume ² (million metric tons)	14.87	14.80
Specific energy consumption (energy efficiency)³ (MWh per metric ton)	1.41	1.40

¹ Sum of all individual energies used at our main production sites (responsible for more than 95% of our energy consumption), converted into primary energy

² All in-spec key products, which in addition to our core products also include products such as precursors and by-products, manufactured at our main production sites (responsible for more than 95% of our energy consumption)

³ Quotient of equivalent primary energy and in-spec production volume at our main production sites

Of particular note are the optimization of our polycarbonate plant in Map Ta Phut (Thailand), which achieved a reduction of 15,000 MWh of primary energy (steam), as well as the Baytown (United States) site, which reduced primary energy consumption by 20,000 MWh (electricity). We retrofitted the chlorine electrolysis system at that location to bring it up to the latest technical standard of the manufacturing process used there.

Greenhouse gas emissions

Along with governments, non-governmental 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 CO₂, all other relevant greenhouse gases are also documented. The emissions factors for the calculation of CO₂ equivalents for the global warming potential were taken from the 5th Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) dated 2014. Additionally, a completely revised and updated greenhouse gas regulation was used in 2019.

In 2019, these specific emissions totaled 0.3901 metric tons of CO₂ equivalents per metric ton of product. Compared with the base year 2005, this corresponds to a cumulative drop of 46.1%, and a decrease of 10.2% compared to the previous year. We have used a calculation methodology based on the market-based method pursuant to the current GHG Protocol since 2018.

Covestro Group greenhouse gas emissions¹

	2018	2019
Specific greenhouse gas emissions (metric tons of CO ₂ equivalents per metric ton of production volume ²)	0.4342	0.3901

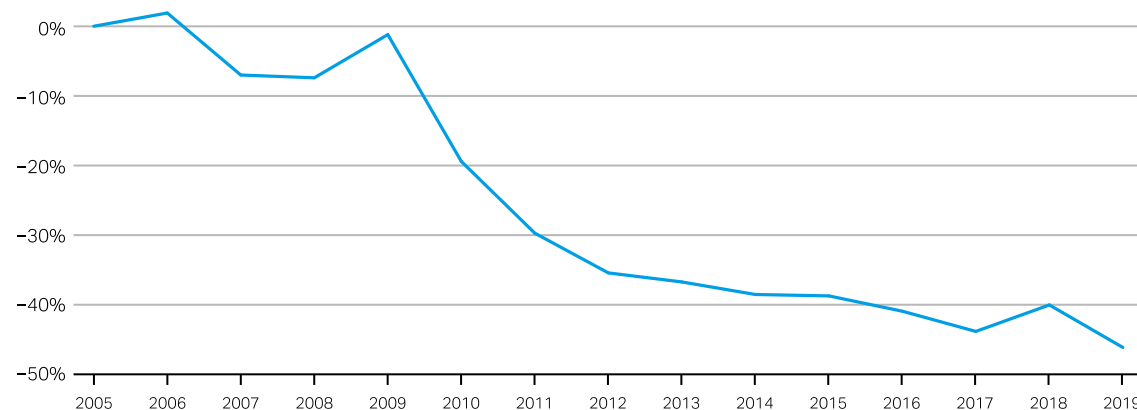
¹ Portfolio-adjusted based on the financial control approach of the GHG Protocol; global warming potential (GWP) factors up to 2018 correspond to the IPCC Second Assessment Report and from 2019 onward to the IPCC Fifth Assessment Report. Applying these factors to 2018 would produce an emissions figure that is 1.1% lower.

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 5.8 million metric tons of CO₂ equivalents in 2019) 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).

Key drivers of the reduction are the developments at two major production sites in the United States and China. Compared with the previous year, we obtained energy such as steam and electricity externally with a significantly lower carbon footprint at these sites. This puts us back on the path to reaching our greenhouse gas goal of halving emissions 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 %)¹



¹ The calculation methods for fiscal 2018 onward 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.

Covestro develops products whose manufacture results in lower CO₂ emissions than those of conventional products – by using CO₂ as a raw material, for instance. In this context, the company began marketing an innovative binder in 2018 for which a key component is produced using as much as 20% CO₂. This conserves the same quantity of petrochemical raw materials and improves our carbon footprint.

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. This is underscored in our Corporate Commitment on Water.

In 2017, we therefore 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 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. However, production fluctuations, building demolition and refurbishment, and land remediation can also influence waste volumes and recycling paths. The total waste volume produced rose in 2019, mainly due to nonhazardous waste from stepped-up construction and demolition activity at the Dormagen and Uerdingen sites in Germany. On the other hand, the volume of hazardous waste produced fell in the reporting year. One of the main reasons for this is the production-related waste at our production facilities in Baytown (United States) and Dormagen. We determine specific opportunities for waste reduction with targeted projects and put these into practice within the context of our existing manufacturing processes. For instance, a new procedure is currently being tested at our Dormagen site in the manufacturing process for our bulk TDI product, which significantly reduces the resulting process waste volumes. After its successful implementation, the findings can subsequently be transferred to additional plants at other Covestro sites. The next proposed step is to equip our large-scale TDI production facility in Shanghai (China) with this technology.

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. Covestro reviews in principle 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 transportation and packaging.

Covestro supports initiatives such as Operation Clean Sweep (OCS), which focuses on preventing plastic particles from entering waterways and oceans. We have introduced global measures to minimize to the greatest extent possible the loss of plastic pellets on the way from production to the finished product at our customers' locations. In 2018, we urged our partners in the supply chain to join the initiative; at the same time, we are continually monitoring the progress. In 2019, Covestro in cooperation with the PlasticsEurope association and other members started work on a proposal for an external certification system. We are reviewing how we can make OCS part of the sustainability issues covered by contracts with logistics partners.

Responsibility along the Value Chain

Sustainability in Supplier Management

Covestro regards adherence to sustainability standards within the supply chain as a fundamental 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 environmental standards, as well as those related to corporate responsibility when selecting new suppliers and in our relationships with existing suppliers. All required 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, new and renewed supply agreements in particular generally contain special clauses requesting suppliers to adhere to the sustainability requirements contained in the Code of Conduct and entitling Covestro to verify their compliance.

📄 See "Due diligence on human rights" (p. 74)

🌐 Additional information is available at: www.supplier-code-of-conduct.covestro.com

Covestro has set ambitious and measurable targets through 2025 aimed at systematically promoting sustainability in supplier management. All suppliers must comply with our code of conduct, which they commit to by accepting the conditions of our purchase orders or contracts. Relevant suppliers accounting for a repeat purchasing value exceeding €100,000 per year are also assessed. They comply with Covestro's sustainability requirements by meeting the minimum result 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 the aforementioned relevant suppliers. In addition, 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 Together for Sustainability (TfS) initiative

Covestro is a member of Together for Sustainability AISBL, a joint initiative undertaken by the chemical industry that now numbers 22 companies. The nonprofit organization was founded in 2011 and pursues the goal of establishing a program of global standards for responsibly sourcing goods and services and standardizing supplier assessment methods worldwide. Covestro supports all criteria by the TfS initiative 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 results of these supplier assessments can be shared via an online platform. In the year under review, Covestro once again played an active role in all TfS work groups in designing and improving the TfS program and the associated assessment process.

A standardized TfS assessment process evaluates how well suppliers maintain the required sustainability standards. Covestro uses a structured prioritization process to select the suppliers to be evaluated and initiates either an online assessment or an on-site audit for these suppliers – provided that there are no current results. In prioritizing the suppliers for these assessments, Covestro considers a combination of country and material risks. 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. It evaluates suppliers' business practices with regard to their sustainable orientation. 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, labor and human rights, ethics, and sustainable procurement. The questionnaire's section on sustainable procurement also inquires on the extent to which the sustainability standards of upstream suppliers are considered.

The 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 with corresponding supporting documents. The EcoVadis analysts 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 information including a detailed overview of identified strengths and improvement areas as well as a weighted overall result for the suppliers analyzed.

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 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, and – in the event of non-compliance 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 Covestro's suppliers

	2018	2019
Share of relevant purchasing value from suppliers meeting Covestro's sustainability criteria^{1,2}	80%	81%
Supplier assessments conducted in the reporting year²	736	778
of which through online assessments	712	760
of which through on-site audits	24	18
Total supplier assessments conducted²	1,584	1,638
of which through online assessments	1,400	1,478
of which through on-site audits	184	160
Supplier assessments meeting Covestro's sustainability requirements	1,074	1,133

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 2019, 81% (previous year: 80%) of our relevant purchasing value was attributable to suppliers whose externally determined results* meet our sustainability requirements. Furthermore, 56% of our strategically most important suppliers who conducted a repeat assessment in 2019 have improved over their previous results.

In 2019, assessment results considered critical by Covestro were identified for nine 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: 1%). 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. None of the audits conducted revealed any indication of child or forced labor.

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.

* The results provided by the external providers EcoVadis SAS and Together for Sustainability AISBL were not subject to the audit by KPMG AG Wirtschaftsprüfungsgesellschaft.

Sustainability training and dialogue

For Covestro, it is important for our own procurement staff, in particular, to have a comprehensive understanding of the significance of sustainability in the supply chain. Awareness was raised among employees again in 2019 in company-wide sustainability training plus region- and country-specific training on assessment methods and processes.

We continued promoting the implementation of four strategic principles in procurement (reliability, sustainability, cost transformation and innovation) in 2019. In addition, Regional Program Managers were posted in each of the EMLA, NAFTA and APAC regions in the previous year. They work to promote the permanent establishment and optimization of our sustainability program.

 [See "Procurement" \(p. 36\)](#)

Dialogue and close collaboration are essential in enabling suppliers to successfully comply with Covestro's sustainability requirements. We therefore offer our suppliers a range of opportunities for training and dialogue. This provides the foundation for building reliable relationships and enables us to identify and eliminate issues at an early stage. Continually improving our suppliers' sustainability performance is a priority for Covestro and is supported by the TfS initiative, which regularly organizes supplier days and promotes further training, among other activities. TfS provides a wide range of information materials and various online training courses on its website.

Product Stewardship

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 to production and marketing and for their intended use by the customer through to disposal.

Monitoring the quality of our products and their suitability for particular applications is anchored in our operational units. Safe transportation, qualification for specifically regulated applications and marketability are centrally managed at Covestro, as is the obligation to report to the Board of Management on these matters.

The safe use and application of our products has high priority. We greatly value conveying product safety information transparently and comprehensively. In addition to the documents required by law, we therefore provide supplementary information and offer training as part of 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 entire 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. This important means of protecting consumers and the environment within the context of risk management may be used in special cases in which, 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, as well as the review of the measures taken in light of new scientific developments. 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.

All product groups at Covestro undergo a multiple-step product safety assessment process. At first, we identify chemicals that are subject to statutory regulations and document the corresponding regulations. We then examine the risk potential of our products. During this process, we also identify substances for which only limited use or marketing are permitted based on the applicable laws and regulations. These include, for example, substances classified as being of very high concern in accordance with the European Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and substances covered by the European regulation on greenhouse gases. Substance compositions are checked against rules sets that would reliably indicate noncompliance with regulatory requirements. Should the assessment or new findings reveal that it is not safe to use a certain chemical, we take the necessary risk mitigation measures. Those 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 an economical and technically feasible way. Finally, we produce the legally required safety data sheets, technical data sheets and labeling for the chemicals, including for chemicals that are not subject to this legal obligation, thus exceeding statutory requirements.

We collect, document and analyze all information about the safe and compliant use of our products in a global information system, which provides the basis for further improvements. This includes product monitoring and reporting on product-related and compliance incidents. Our global regulations for the Group contain rules and guidance on when and how this information is to be used. For example, we have been able to improve the information on the safe handling of our products and provide customers with specific training. Furthermore, computer-based training for our employees along with workshops help embed the understanding and importance of product stewardship in the company.

For 2019, we know of no material incidents of noncompliance with regulations and voluntary codes concerning the health and safety impacts of products and services, nor of any significant noncompliance with regulations and voluntary codes relating to product information and labeling.

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. This is an initiative by the chemical industry that aims for continual improvement by companies in the areas of environment, safety and health, regardless of the legal requirements. 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. Furthermore, we 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 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 range 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 substitution or prohibition. The planned restriction on diisocyanates currently being discussed in the 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. Covestro supports this and advocates a practical and effective arrangement, for example regarding the preparation of training materials. As a member of the European chemical industry, we made a voluntary commitment to review and improve the REACH registration dossiers by 2026.

In addition, Covestro pursues 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 the end of 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 corporate regulation "Product Stewardship" in the annex entitled "Substance Information and Availability." 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.

Covestro has also committed to compliance with animal welfare policies during toxicological and ecotoxicological testing.

 Additional information is available at:

www.productsafetyfirst.covestro.com/en/resources/resources/detail-pages/statement-on-animal-studies

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. GPS is accessible at Covestro through the Product Safety First internet portal and is available worldwide. On this website, we inform our 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 discussed in the context of the European chemical regulation REACH.

Based on numerous scientifically valid and high-quality studies, Covestro is confident that BPA can be safely used in all areas of application supported to date. This assessment is supported, e.g., in the case of food safety, by the latest evaluations from the responsible European and American authorities, namely the European Food Safety Authority (EFSA) and the Food and Drug Administration (FDA). By participating in regulatory processes, Covestro is actively working to dispel uncertainties and answer open questions. In addition, we continue to advocate for making 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 on this issue through associations, on the Covestro website and through direct contacts.

Circular Economy

Limited natural resources and advancing climate change are two key drivers of the circular economy. For Covestro, the circular economy primarily means finding efficient solutions so that products and materials are returned to the value cycle at the end of their use phase – as a whole, in the form of polymers or in molecular form. In this way, we aim to create new value from products and materials. We take a holistic approach so that implementing circularity also reduces our resource consumption and greenhouse gas emissions. In addition to developing new processes, we therefore strongly promote the concept of circularity by taking this principle into account when designing products, purchasing materials, generating and using energy and raw materials, and developing new business models. Specifically, this means that materials such as plastics do not end up as waste, but instead continue to be used, for example, in multi-use systems. Plastics in recycled form can also be put to a completely new use. One example is the production of a polycarbonate based on a recyclate made from used polycarbonate water bottles that is used in the electronics industry in laptops, copiers, printers and similar applications.

For us, however, the circular economy does not end with recycling and reusing our own products and materials. We also develop processes and solutions for recycling materials such as solid waste and waste gases generated during production processes.

The transformation of an economy that, to date, is primarily oriented toward linear business models into a circular economy provides enormous opportunities for Covestro, for example through the development of new technologies, partnerships and business models. Alongside these opportunities, we are also keeping an eye on the circular economy's potential for disruption of the entire value chain. Against this backdrop, Covestro launched the global Circular Economy strategy program in early 2019. The first step was the development of strategic recommendations for the further implementation of the circular economy at Covestro by various Group functions and in all divisions. We established global teams for this purpose throughout the Group and conducted workshops in China, Europe and the United States. Based on the recommendations from the Circular Economy strategy program, the Board of Management decided to move forward with Covestro's strategic orientation in this area with an initial focus on the following elements:

- Specifically considering used plastic products as a possible source of raw materials in addition to other alternative sources such as CO₂ and biomass
- Developing innovative and resource-efficient processes for converting used plastics into feedstock for industrial production
- Actively promoting a way of doing business aligned with circularity by advancing existing and initiating new partnerships and business models along the entire value chain

Moreover, Covestro undertook additional initiatives to further develop and implement the circular economy within the Group. For instance, we launched an internal Start-up Challenge in which Covestro employees were called on to develop global ideas for sustainable product solutions. Out of 234 ideas submitted, all six finalists fell in the circular economy category.

Covestro also joined the PReSmart research consortium, which began its work in 2019. Along with various value chain partners, Covestro is researching ways to improve the recycling of polyurethane plastics. Our common goal is to develop a circular product cycle for these materials. In 2019, Covestro also became a member of the Consortium for a Circular Carbon Economy in North Rhine-Westphalia. This consortium works intensively on researching the interconnection of the waste, chemicals and energy sectors in North Rhine-Westphalia in order to create new chemical products from locally available raw material resources. Along with industry partners, Covestro launched another initiative as part of the Circularise PLASTICS project in the year under review. The key question of this project is investigating how blockchain technologies can contribute to transparency and traceability in plastics recycling.

In China, we further expanded our portfolio of recycled polycarbonate products in 2019. Using a mechanical recycling process, we already produce more than ten different types of polymer granules and polymer blends for the Asian market. These products contain 20% to 50% recycled materials and are mainly used in the consumer electronics industry.

As part of a partnership with customers in the United States, polyurethane foams from our research and development activities that would otherwise have to be disposed of as waste are obtained and recycled. Moreover, we entered into a research partnership with the non-profit organization Mattress Recycling Council in California (United States) in which we intend to improve and expand mattress recycling in the United States.

Covestro is currently evaluating various options at different levels for measuring and accounting for circularity. In 2019, we continued to pursue an approach to carbon productivity to extract the maximum benefit from carbon. The approach aims to make the disconnection of value creation from the use of fossil resources measurable. Circularity can contribute to this goal through the multiple reuse of the carbon contained in products. In principle, this methodology can be applied at the product, company and economy levels. Currently, we are evaluating whether this could also be a suitable indicator for measuring the implementation of circularity in companies, in individual sectors or in economies as a whole. We commissioned an external study on this topic and hope to obtain further insight as a result.

In addition, we have worked on accounting issues relating to the circular economy in the chemical industry and our production processes as part of our Circular Economy strategy program. Among other things, we concentrated on the mass balance approach to enable allocation of secondary raw materials used to the individual products. We advocate the development of suitable processes that allow for transparent accounting for the recycled portion of material and product flows.

At the social policy level, Covestro is involved in Circular Economy Initiative Deutschland (CEID), which receives public-sector support and is spearheaded by the National Academy of Science and Engineering (acatech). CEID is working on developing a common vision of Germany's path to a future-proof circular economy. Covestro is a member of the steering committee and actively participates in working groups for circular business models and battery and packaging cycles.

At the European level, Covestro is a signatory to the Circular Plastics Alliance declaration and will support the common goal aiming for European business to use at least 10 million metric tons of recycled plastics annually by 2025.

In China, we engaged in the discussion on the circular economy at various levels. Covestro is a member of the China Plastics Reuse and Recycling Association (CPRRA) and also active in the China Circular Economy Association (CCEA). We additionally participated in cooperative bilateral events in China on the circular economy, such as the 6th Sino-German Environment Forum on the topic of circular economies for plastics.

At the international level, Covestro participates in the Alliance to End Plastic Waste (AEPW) network.

 See "Alliance to End Plastic Waste" (p. 75)

In fiscal 2020, Covestro will define additional steps and conditions for the company in order to structurally and technologically advance its focus on the circular economy.

Social Responsibility

Covestro is a signatory to the UN Global Compact charter and participates in the industry-led Responsible Care initiative and in global sustainability forums such as the World Business Council for Sustainable Development (WBCSD). We publish voluntary corporate commitments on important topics on our website, thus undertaking to comply with certain standards.

 Additional information is available at: www.covestro.com/en/sustainability/service-downloads/policies-commitments

Due diligence on human rights

Covestro is committed to respecting human rights on the basis of the United Nations Guiding Principles on Business and Human Rights. We advocate for compliance with the various national action plans and laws on human rights due diligence. In doing so, we openly take responsibility as a company for respecting human rights in all of the Covestro Group's activities, at subsidiaries and throughout global supply chains and value chains, as well as for guarding against violations of human rights.

The principles of our due diligence on human rights are delineated in various voluntary commitments, company policies and our Supplier Code of Conduct. In these documents, 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 in the reporting period in our updated document "Corporate Commitment against Slavery and Human Trafficking."

Covestro has also incorporated various sub-aspects of human rights in its management systems. This includes issues such as safety, product stewardship, compliance and human resources policy.

 See "Employees," (p. 54) "Safety," (p. 60) "Product Stewardship" (p. 69) and "Compliance" (p. 132)

Covestro regards adherence to sustainability standards within the supply chain as a fundamental factor in value creation and an important lever for minimizing risks. In our Supplier Code of Conduct, we therefore require our suppliers to also protect the human rights of their employees and treat them with dignity and respect. We conduct detailed sustainability assessments of our suppliers that also focus on compliance with human rights due diligence.

 See "Sustainability in Supplier Management" (p. 66)

 Additional information is available at: www.supplier-code-of-conduct.covestro.com

Due to the growing importance of the issue of human rights due diligence, we systematically analyzed and assessed the risks of human rights issues in the year under review. The initial step was to identify and prioritize material human rights risks and their occurrence in our value chain (human rights risk assessment). Human rights risks are defined as any potential risk to those potentially affected that could arise from our business activity, supply chain or our products. The conducted risk analysis covered our own sites as well as the supply chain and the use phase of our products. In a workshop with selected departments, the potential risks were outlined, discussed and prioritized according to recognized criteria to be worked on further.

 See "Material topics" (p. 46)

The risks were prioritized in two steps:

- Step 1: Identification and categorization of potentially unfavorable consequences for human rights. These include consequences that Covestro might have caused, under certain circumstances might have contributed to, or might be associated with indirectly in the course of its business activities.
- Step 2: Setting of priorities and identification of topics of particular relevance to Covestro (salient issues). For this purpose, both the severity of a possible human rights violation as well as Covestro's degree of influence (leverage) were assessed.

This risk analysis resulted in the identification of 11 topics with a high to very high priority for Covestro. Based on this risk analysis and a status-quo comparison of existing processes and structures for selected topics, we developed a concept for a comprehensive human rights management system which will be promoted further in 2020.

A comprehensive human rights due diligence concept and its development status were presented to the Board of Management in the reporting period.

Alliance to End Plastic Waste

As a founding member of the Alliance to End Plastic Waste, Covestro is expanding its commitment against the uncontrolled disposal of plastic waste in the environment. This global network of companies strives to minimize, manage and reuse plastic waste – and above all, prevent plastic waste from entering the environment. By the end of 2023, USD 1.5 billion (around €1.4 billion) is expected to have been provided for this purpose by the network. More than 40 companies from the chemical, plastic, consumer goods and waste disposal sectors currently participate in this initiative.

For Covestro, this alliance represents an important step toward promoting innovation, establishing strategic partnerships, transforming ideas for waste recycling into economically viable and sustainable solutions, and encouraging sustainable consumer habits. The objective is to use plastic waste as a raw material to keep the volume of plastic waste that enters waterways and the environment to a minimum.

The measures Covestro itself takes are key, since both the Alliance and its members concentrate primarily on specific actions. In 2020, our contribution to the Alliance's mission will be assessed for the first time using a newly developed list of criteria by the Alliance. Information about verified initiatives and projects will subsequently be published as long as they are not confidential.

Inclusive Business

We collaborate globally with customers as well as governmental and non-governmental organizations under the auspices of the Covestro Inclusive Business initiative to develop affordable solutions based on our technologies and products to benefit underserved populations and regions. Our employees focused on three regions (India, Southeast Asia and East/South Africa) and worked on improving the living conditions of underprivileged and mostly low-income people by implementing new innovative solutions for affordable housing, a secure food supply, as well as water and sanitary facilities. In cooperation with partners, we develop affordable products based on our raw material technologies tailored to user needs. One area of activity is post-harvest losses in the food industry in developing countries. Post-harvest losses are all losses occurring after the harvest (e.g., as a result of improper storage) and are an economic challenge particularly for smallholder farmers. Solar food dryers and cold storage, which are developed with industry partners within Inclusive Business, contribute substantially toward improving the financial situation of these farmers by reducing post-harvest losses. At the same time, innovative solutions help open up new markets for our company.

It is important to clearly distinguish between Inclusive Business activities and donation activities. This is mainly achieved by working with partners to focus on the joint development of new and affordable solutions whose financing is ultimately assumed by governmental and non-governmental organizations. Our work in consortia also ensures that the relevant segments of the population ultimately profit from the jointly produced end products.

In line with the UN Sustainable Development Goals (SDGs), Covestro is pursuing the goal of improving the lives of ten million people in underserved developing and emerging countries by 2025. The Board of Management is informed annually about these global activities. By 2019, we reached more than 650,000 people with Inclusive Business solutions. We arrive at this number for the installed solutions by considering the people that could potentially benefit from our projects as part of their work or daily life based on local conditions. These include farmers and their families, schoolchildren or the people employed for the installation. The data is collected with the help of participating governmental and non-governmental organizations as well as third-party sources of data for determining average family sizes in the respective countries.

In Africa, the focus has been mainly on post-harvest solutions, especially food drying. The initiative enabled initial solar dryers to be implemented successfully in Tanzania and the Seychelles. We can also look back on a successful start in South Africa, including the launch of a long-term partnership with Tshwane University of Technology (TUT). Students at TUT will now work with our support on various drying methods using solar dryers in the next three years. The goal is to enable local production of solar dryers in Africa in 2020. In the coming fiscal year, we will expand our focus in Africa to securing the supply of drinking water.

In India, Nepal and Sri Lanka, we have installed various solutions ranging from sanitary facilities and affordable housing units to drying or cooling systems for preserving food.

The Inclusive Business team in Southeast Asia also concentrates on post-harvest products as well as drinking water supply and sanitary facilities. We successfully partnered with Blue Dragon Children's Foundation on a pilot project on sanitary facilities at Muong Mun Secondary School. The project facilitates the supply of water to disadvantaged children from ethnic minorities in the Dien Bien province in Vietnam. A water distillation system by our Melbourne-based partner company F Cubed Ltd. in Australia and our specialty films are used to supply over 600 students with drinking water.

Social engagement and dialogue

Social and societal matters are of great significance to Covestro. We address our responsibility to society comprehensively through corporate citizenship as well as ongoing constructive dialogue with authorities, neighbors, stakeholders and organizations interested in Covestro. More specifically, we maintain constant contact with authorities and conduct regular plant tours as well as operating neighborhood offices. Donations, support programs and special partnerships are further expressions of Covestro's active commitment to society.

Access to education, technology and a better life

Covestro would like to facilitate access to education, technology and a better life, and achieve the SDGs faster through our social engagement. As one of the world's largest polymer companies, Covestro uses 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 donation management in order to provide more resources for meeting the SDGs.