Sustainability Report 2017

Follmann Chemie

“We define sustainability as combining our business activities with our sense of economic, environmental and social responsibility. For us, sustainability is an obligation towards the generations of today and tomorrow.”

Dr Henrik Follmann

Sustainability Report 2017

Dr Henrik Follmann (right)
Dr Thomas Damerau (left)

Preface by the company management

Dear Readers,
You are reading the 2017 Sustainability Report of the Follmann Group. Thank you for your interest in our company. The Sustainability Report 2017 boasts a new layout, and a lot has also changed in terms of content compared to previous reports.

We have always focused on sustainability. In 2017, we seized the opportunity to carry out a sustainability review and refine our sustainability policy through the Chemie^3 sustainability initiative of the three alliance partners, the German Chemical Industry Association (VCI), the Federal Employers' Federation (BAVC) and the trade union for the mining, chemical and energy industries (IG BCE).

In addition to the report being revised, key topics were identified and evaluated, and project ideas were drafted and initiated as part of the sustainability review. These include projects that deal with the topics of "New work" or "Sustainability in the supply chain".

The Follmann Chemie Group currently employs more than 700 people worldwide. We want to recognise and develop the different potentials of our employees. That's why we offer our employees an extensive further training programme. Our managers are also trained and prepared for new challenges in special sessions. The basis for this is formed by the new leadership guidelines adopted by the Follmann Chemie Group in 2017. They provide orientation for daily actions and are at the same time a plan for all management staff.

At the same time, young and committed junior employees are provided with prospects for a future in the company early on. Currently, 30 trainees or dual students work at the Minden site. With the launch of the Talent Development Programme (TDP), talented and dedicated employees are to be systematically promoted and secured to the Follmann Chemie Group in the long term.

The largest investment in the history of the Follmann Chemie Group is the construction of a new production facility for construction-chemical products of the Triflex product portfolio. After being approved in 2016, construction began last year and has almost been completed. The construction of the building and the commissioning of the production facility will continue to occupy us in 2018.

This investment is a clear commitment to the Minden location and the region. In this context, we would like to emphasise our constructive and positive cooperation with the authorities, especially with the Detmold district government and the city of Minden. The Follmann Chemie Group attaches great importance to being involved in the region. As a result, the Group is active in a variety of ways outside of its core business and, for example, supports social and educational institutions in the region.
We are finding our answer to a digital world and have developed a holistic digitalisation strategy for the Follmann Chemie Group. Essential components are corporate culture, IT security, and our processes and structures. With this in mind, we have reviewed all customer-related value-added processes and designed them

according to the “simple wins” principle. In essence, the digital transformation is about improving the customer experience and thus customer loyalty. Therein lie enormous opportunities for the Follmann Chemie Group.

We are aware that we can only achieve our goals by working closely with our customers, suppliers, employees and the authorities, and by always being willing to engage in dialogue, in particular with our neighbours. Therefore, we would like to give you an insight into our activities in 2017 with this sustainability report.

We look forward to continuing our dialogue with you.

Dr Henrik Follmann
Managing Director

Dr Thomas Damerau
Managing Director

Follmann Chemie Group

The Follmann Chemie Group is an owner-managed and successful international corporate group headquartered in Minden. It comprises the Follmann and Triflex companies. Its key competences are the development, manufacture and sales of speciality chemicals for the processing industry (printing inks, adhesives and coatings) as well as waterproofing systems, marking materials and infrastructure for the construction chemistry segment of building materials industry. High innovative strength, excellent product quality and customised solutions and services are essential factors for the company's success. A modern organisational structure and efficient processes make it possible to respond quickly and flexibly to customer requirements, to sense trends and to systematically implement them. Today, the company is a key market player in the speciality chemicals sector in Europe.

Tradition, innovation and **sustainability** are essential components of the corporate philosophy and decisively shape the company's daily activities.

Tradition

Founded in 1977 by Heinrich Follmann and his son, Dr Rainer Follmann, the family business initially focused on the manufacture of construction-chemical products. A few years later, the portfolio was expanded to include printing and coating materials for different types of end products. With the founding of the two companies Triflex and Follmann, competencies were brought together and successfully further developed. Numerous international subsidiaries and sales offices impressively reflect this dynamic.

Today, the family business is managed in the third generation by Dr Henrik Follmann. The company's close ties to the region are not only reflected in its support of public and social institutions, but above all in its many investments: In the past 10 years alone, almost 100 million euros have been put into the Minden site – a clear signal of confidence in the future of the region.

Innovation

For the family-owned company, innovation is an important part of the business philosophy. Together with its customers, it develops individual, high-quality solutions for construction chemicals and the processing industry. Every year, the Follmann Chemie Group invests large sums in the development of new products and technologies in these areas. Comprising around 10 % of all employees, the Research and Development and New Business Development departments form a significant group within the company. Advanced testing facilities and state-of-the-art laboratories underline the importance and value of these departments, in which the company will continue to invest in the future.

Sustainability

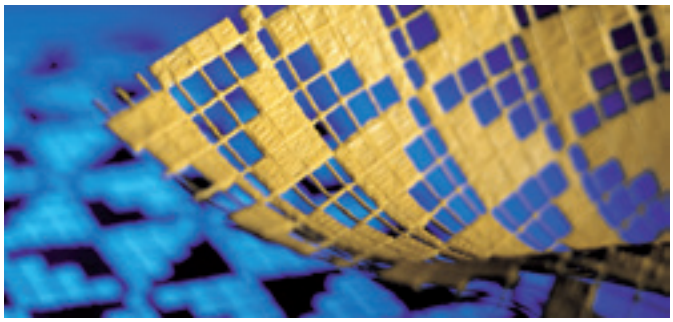
The requirement of sustainability has always been an essential building block of the corporate philosophy, on which all entrepreneurial decisions and actions are based. A particularly successful example from recent years is the construction of a combined heat and power plant, with the help of which CO_2 emissions have already been reduced by 40 % in the first year of operation. As a member of the German Chemical Industry Association (VCI), we act responsibly in the spirit of the worldwide initiative Responsible Care. In addition, the Follmann Chemie Group supports the "Chemie³" sustainability initiative of the German Chemical Industry Association and regularly carries out sustainability reviews.

Tradition, innovation and sustainability: these three pillars have formed the basis for the corporate goals achieved so far and are at the same time important guard rails and signposts for a successful future.

Integrated management systems

We are convinced that the successful running of a company is only possible through well-organised processes and thus through well-functioning management systems, and it is a matter of course to us to continuously improve. Only through sustainable improvement processes can a company ensure excellent product, project and service quality on an ongoing basis under continually changing framework conditions.

Our quality management has been ISO 9001-certified since 1997. In 1998, the certification of our environmental management system followed, first according to EMAS and from 2001 to ISO 14001. In 2014, our energy management was certified according to ISO 50001 for the first time.



FOLLMANN
your chemical experts

Our product solutions

The Follmann product range comprises printing inks, adhesives and microcapsules as well as coating systems for the decorative and functional design of surfaces in various areas of applications: we accompany our customers along the path from the initial product requirement to the finished end product. Individual solutions are our speciality!

Print & Packaging

Here, Follmann develops and sells products for the print and packaging industry, with a clear focus on solutions for the food industry. These include environmentally friendly water-based inks for flexographic and gravure printing for flexible film and paper packaging for all types of table decoration products such as napkins, tablecloths and table sets.
Our high-performance adhesives for food and non-food applications are another important product category. As a full-range supplier in this sector, we produce water-based dispersion adhesives and low-migration hot-melt adhesives which do not require hazard labelling for the paper and packaging industries. Our adhesives are used in folding cardboard boxes, corrugated cardboard and cardboard adhesion, trays, end-of-line packaging and bookbinding, for which we offer special reactive systems. Scent varnishes, which can, for example, be printed on flyers, postcards, magazine pages and packaging to boost the advertising message and thus increase sales, round off the portfolio.

Interior decoration

From printing inks, plastisols and scatter granules for wallpaper and decorative coatings for panels through to printing inks with intense colours for decorative paper – we offer our customers in the wallpaper and decoration sector premium finishing products to transform their final products into true eye-catchers. As a supplier of decorative wallpaper coatings, Follmann is a leading market player.

Functional solutions

The spotlight is on functional solutions for manufacturers from a range of industries. Our product portfolio ranges from plastisols and polymer dispersions for technical textiles to pigment preparations for industrial paints and colouring plastics as well as microencapsulations for detergents and cleaning products, lubricants and water-based coatings for digital printing media. What makes microencapsulation so special is that the ingredients are “packaged” in microscopically small capsules and their active agents are released by mechanical action.

Wood & Furniture

Whether for solid wood bonding, full-surface and assembly bonding, hot and cold laminating, veneering, edge gluing and pre-coating, panel and profile wrapping as well as a whole host of other wood bonding processes – we sell high-performance hot-melt and dispersion adhesives for the wood and furniture industries. Our adhesives are suitable for various applications and are characterised by their high quality, durability and ease of use.

Triflex
Gemeinsam gelöst.

Our system solutions

As the leading European specialist for waterproofing and coatings, there is one thing we have learnt over the past 40 years: having an outstanding product is not enough to solve problems permanently. As a family company, we have a completely different approach: we always solve problems together. From consultation and project execution to qualified processing to excellent products and services, we develop a suitable solution for every challenge in close collaboration with our tradespeople, planners, architects and the housing industry.

Flat roofs and details

Triflex offers systems with long-term protection for simple, detailed or intricate roof structures. Whether new construction or renovation, green roof or individual substrates: Triflex offers the ideal, customised and long-lasting solution to meet every challenge. The flexible material together with the fleece reinforcement ensures seamless and jointless waterproofing.

Balconies, roof terraces, loggias and walkways

Open-air spaces like balconies and roof terraces, galleries and walkways are constantly exposed to the elements and mechanical stress. Here, moisture penetration, concrete flaking and corrosion of reinforcements can cause damage and have an impact on the fabric of the building. Triflex systems provide lasting protection against moisture, thus offering long-lasting functional solutions which ensure great planning reliability.

Multi-storey and underground car parks

All year round, multi-storey car parks are exposed mechanical and chemical loads. Rain and condensation, road salt and fuels additionally attack the already strained surfaces. Triflex systems permanently seal parking decks and underground car parks and meet the highest standards of safety, cleanliness and cost-effectiveness. Owing to the fast-curing liquid plastic, all surfaces, ramps and details are quickly accessible again.

Infrastructure

Triflex develops innovative system solutions for a variety of applications. These include both the maintenance and operation of traffic areas as well as the protection of joints, wind turbines and silo systems, and slurry, manure and leachate plants. Thanks to the Triflex systems, these areas are permanently sealed and can be used and accessed again after a short time.

Road, cycle path, hall and car park markings

Increasing traffic, weather conditions and mechanical stress on motorways, roads and cycle paths also place high demands on the marking systems. Triflex systems are not only durable and quick to apply, but also act as a guide 24 hours a day and in all weather conditions, thus ensuring maximum safety.

Product responsibility

Product safety in focus

As a company in the chemical industry, we have a high responsibility for the safety at our production site as well as for the safety of our customers and the users of our products. Product safety is therefore an extremely important issue for us. We are continually working to improve our products and to minimise the use of hazardous substances. For example, we are committed to avoiding toxic and carcinogenic substances and preparations when developing new products.

Through a newly launched raw material qualification process, we only use raw materials that meet our criteria for the respective application. We are committed to not using any raw materials without testing and approval.

Water-based inks for sustainable and flexible printing

With our environmentally friendly Follmann water-based printing ink systems, we offer premium products which have been specially developed for flexographic and gravure printing on pre-treated plastic films, such as PE, PP, PET, PA and OPP. As these inks contain water rather than organic solvents, they are significantly lower in emissions and more environmentally friendly than traditional, conventionally used solvent systems.

Low-emission adhesives

Natural living is becoming increasingly important. Low-emission processing plays an increasingly important role in the manufacture of furniture and floor coverings, as this is the only way to enable customers to live truly naturally and healthily. We make an important contribution to this in the form of the Follmann dispersion and hot-melt adhesives. The dispersion adhesives are proven to be low in emissions and comply with the strictest European limits.

Reduction of the amount of active ingredients through microencapsulation

By microencapsulating fragrances and other active ingredients for printed products or detergents and cleaning agents, Follmann has managed to add value.

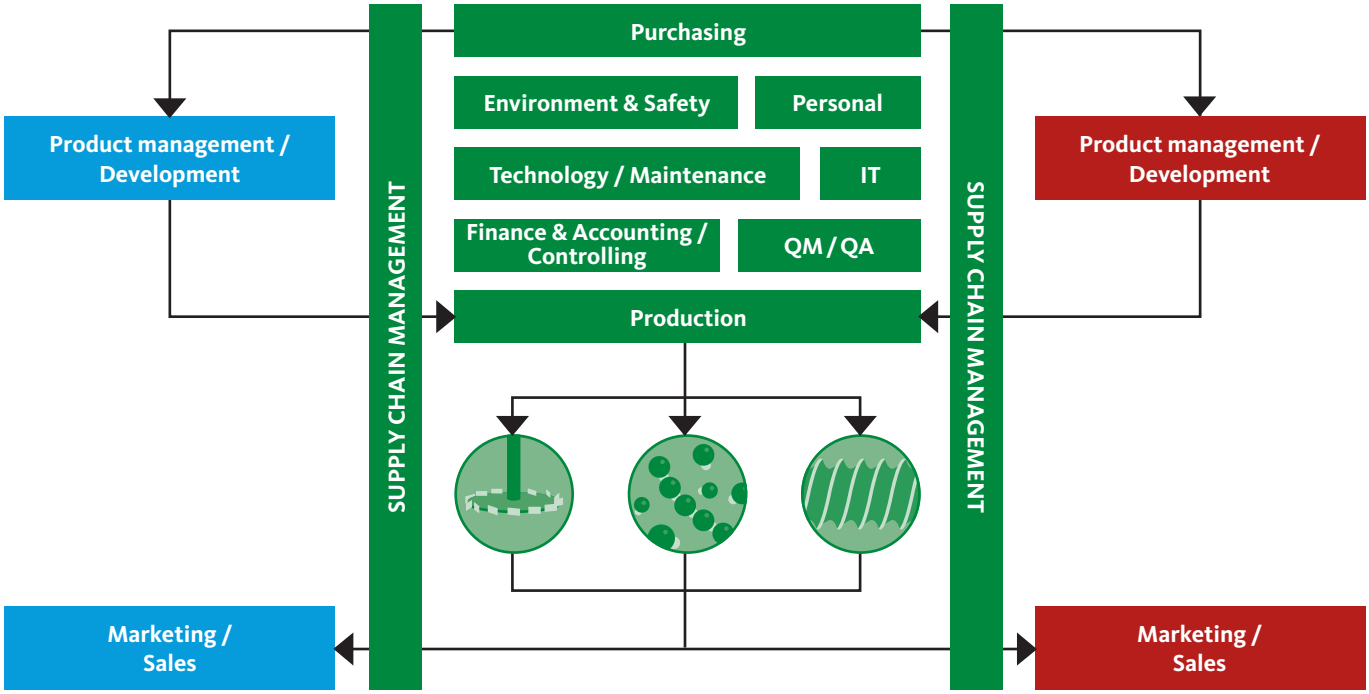
The encapsulation of fragrances offers the option of targeted scent release in printed products, or enables a prolonged freshness effect. Thanks to the patented Follmann technology we use for this purpose, the microcapsules are characterised by excellent stability, so that the substances contained in them do not escape prematurely and unintentionally. As a result, the use of active ingredients can be reduced to a minimum.

Triflex – resistant and durable

Triflex systems made of liquid plastic protect the building structure safely and permanently from moisture and dampness. The quality solutions significantly extend the renovation intervals and thus make a decisive contribution to value retention.
Liquid applied waterproofings are single- or multiple-component materials that are seamlessly liquid-applied in situ before curing by means of chemical cross-linking or physical drying. Reliable surface and detail waterproofing poses no problem with Triflex system solutions – whether new build or refurbishment. Liquid applied waterproofings from Triflex are user-friendly and provide flawless lasting protection in just one application.

Triflex **waterproofing solutions** are certified in the highest performance categories and have performed successfully in extensive tests and in long-term practical use. The expected service life of the waterproofing in accordance with ETAG 005 is 25 years.
Continuous internal and external quality controls, and enhancement and optimisation of products are a matter of course to us.

The **marking materials** feature high mechanical strength, durability and dirt-resistance. Production as per the standards defined in DIN ISO 9001 guarantees consistent levels of quality. More than 100 colours are available for designs in halls, multi-storey car parks and parking areas, where they provide optimal guidance and lasting safety. Furthermore, set-down areas, walkways and vehicle routes can be given a clear structure.



Our corporate structure

An important visible sign of our clearly aligned processes is the corporate structure of the Follmann Chemie Group, which changed in 2015 with the establishment of distribution and development companies Triflex and Follmann. In 2017, we developed our organisation and its structures even further. Our main focus is to provide customised, high-quality solutions to our customers with real added value for users. At the centre is the newly created Supply Chain Management department, which coordinates all goods movements from the ordering of raw materials to the delivery of the products.

Owing to the extensive activities of Follmann Chemie, the subsidiaries Follmann and Triflex can fully concentrate on the development and sales of their respective products.

Follmann Chemie is responsible for purchasing raw materials and manufactures the products developed by its subsidiaries. Quality assurance – from the raw materials to the manufactured products – is overseen by the Quality Management (QM/QA) department. The service departments support all processes of Information Technology (IT), Human Resources, Technology/Maintenance and Environment & Safety. Finance & Accounting and Controlling are also centrally located at Follmann Chemie.

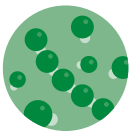
Production methods

Follmann Chemie produces in six different production areas at the Minden site. The production processes can be divided into mixing (homogenising and dispersing) and polymerising. The procedure employed is discontinuous batch production.

Mixing

The physical processes deployed in our production are mixing processes. In our mixing processes, we distinguish between homogenising and dispersing. Both are performed with different stirrers and different machines. Through low shear forces, homogenisation leads to a uniform distribution of the different components in a mixture. Dispersing refers to the mixing of substances which do not form a chemical bond and dissolve only slightly or not at all. Here, a substance (dispersion phase, e.g. pigments) is distributed as finely as possible in another substance (dispersion medium, e.g. printing ink resin) under high shear. The aim is that as many particles as possible of the dispersion phase are wetted completely with the dispersant.
Products: printing inks, liquid plastics, wallpaper coatings, functional coatings, hot-melt adhesives.

Polymerising



Polymerisation is characterised by a chemical reaction that triggers a transformation of small molecules (monomers) into macromolecules (polymers). The manufacturing process takes place in closed systems (heatable and coolable) with continuous dosing of the various reaction partners. The chemical reaction is triggered by the addition of heat (via steam) and the addition of catalysts. The reaction heat (exothermic reaction) produced during the commenced reaction is removed by cooling the reaction vessels. Agitators provide the necessary distribution and homogenisation.
Products: dispersion adhesives, binders as preliminary products for our printing ink and coating production areas, microencapsulations

Our sustainability policy

We see sustainability as our duty to the generations of today and tomorrow and have made the idea of sustainability an integral part of our corporate strategy. We associate financial success with an awareness of economic, environmental and social responsibility. We also adhere to the sustainability guidelines of the chemical industry in Germany and follow the Responsible Care guidelines of the German Chemical Industry Association (VCI).

Within our company, we employ an integrated management system according to the relevant ISO standards to ensure we comply with the laws, official regulations and requirements for plant and product safety.
We set ourselves binding targets as part of a continuous improvement process. We check on an annual basis whether we are on course to meet these targets and make adjustments where necessary. We supply the information and resources needed to achieve these targets. It is the duty of each and every member of staff to do his utmost in his area and role to help us implement our sustainability policy.

Economics
As a family-owned SME, the Group pursues a long-term corporate strategy on which all involved can rely. Two fundamental elements of our strategy are to maintain and improve competitiveness and to safeguard jobs. We are a reliable partner to our customers and suppliers.
We invest heavily in research and development, and this creates added value for the economy and society. We promote a long-term approach to success. We are not under any obligation to optimise returns in the short-term.

Environment
Environmental protection is a high priority in our company. Our goal is to improve our in-house environmental protection activities constantly in the interests of achieving environmentally responsible corporate development. We operate a comprehensive in-house environmental management system, which is certified to ISO 14001.

Energy
We use energy responsibly and are increasing our energy efficiency through a process of continuous improvement, with the aid of an energy management system subject to the ISO standard 50001.
We invest in modern and energy-efficient technologies.

Products
Our products help our customers and users to achieve their sustainability targets as well. When developing products, we take into consideration aspects such as resource-conservation, energy-saving and the reduction of environmental pollution during manufacture and throughout the entire product life cycle.
We are as sparing as possible with raw materials, water and other resources.

Safety

The health and safety of our staff are very important to us. Thus occupational safety forms an integral part of our management system and we place emphasis on a high level of safety in the operation of our plants.

To avoid incidents with a detrimental effect on the environment, we have put in place preventive measures at organisational, personnel and technical levels as part of our internal alarm and hazard prevention plan. Their purpose is to reduce or prevent risks and, in the event of an incident, to effectively limit the impact on humans and the environment.

We set the highest standards for the safety of our products and support our customers and users in the safe and environmentally friendly use of our products. We also inform customers of the risks associated with their use.

Communication

We engender trust in our business activities by communicating openly and respectfully with our customers, staff, shareholders and suppliers as well as with the authorities, our neighbours and the wider public.

We inform all of our staff about sustainability measures and energy-related matters; we motivate them to be responsible at work and we nurture an awareness for the environment, energy and safety.

We publish a sustainability report each year, informing staff, customers, authorities and the general public on the various topics related to the matter.

Social commitment

We value diversity within our staff, and our HR decisions are free from bias or prejudice regarding background, religion, gender, age or disability.

We offer young people a wide variety of training opportunities, with an appropriate scope, to help them take their first step on the career ladder.

We offer our employees development opportunities in the form of general and specific training courses.

We provide various models of working hours where possible in operational terms, and this supports the family commitments of our staff.

Our Code of Conduct is a comprehensive, binding rulebook governing the behaviour of our employees both inside and outside the company.

We see ourselves as part of society and assume the associated responsibilities and obligations. As a medium-sized family business, we focus our social commitment on education and sports in our region. We support kindergartens, schools, the university of applied sciences and training centres through personal commitment, financial resources and other activities.

Our sustainability commitment

Ecology

Even back in Follmann's early days, ecological aspects were central to the corporate philosophy. For example, we developed a number of solvent-free products and have twice received awards for environmental awareness in company management from the "Arbeitsgemeinschaft Selbständiger Unternehmer" (working group of independent entrepreneurs). Furthermore, in 1986 Dr Rainer Follmann was one of the co-founders of the medium-sized business association "future", which even then – long before environmental management systems could be certified – introduced an environmental organisation into their companies. At the end of the 1990s, we decided to integrate environmental and health and safety issues in our existing quality management system. In 2014, environmental and health and safety issues were augmented and complemented by the site-based energy management system.

As a member of the German Chemical Industry Association, we support the initiative for responsible action for a secure future. We are committed to this global Responsible Care initiative, which means taking responsibility for continually improving the protection of the environment and health as well as the safety of employees and the community.

Economics

In terms of economics, Follmann has adhered to firm principles from the start, and is committed to combining financial success and environmental and social responsibility. Ever since it was founded in 1977, Follmann has been a family company and intends to remain so. We feel just as responsible for our customers' success as our own. We make long-term investments at our production site in Minden rather than focusing on maximising short-term profits. We adopted a Code of Conduct in the Follmann Chemie Group to which all managers are bound.

Social responsibility

We have made a clear commitment to the Minden location and are involved in various ways in the region.

Over the past years, occupational safety as well as training and development opportunities for all employees in the Group have been continuously systematised, professionally organised and enhanced. In addition to occupational safety, we have established a health management programme, in which we implement a wide range of measures relating to health. We offer talks, workshops and courses as well as an annual Health Day together with external providers.

The Follmann Chemie Group provides training opportunities for an exceptionally large number of young people.

Activities and memberships

Working with Organisations: Our employees are involved in around 60 working groups, committees and associations. By engaging in these activities, we, as a family-owned medium-sized company, endeavour to influence the conditions in our industry in a responsible fashion.

Chemistry³: A sustainability initiative organised by the German chemical industry: we play our part in this initiative and intend to get to grips with sustainability in all its facets on an ongoing basis.

DGNB e.V. – German Sustainable Building Council: We are a member of the DGNB and, with our systems and know-how, we support the council's goals of sustainable building and operation of the built environment.

Wissensfabrik – Unternehmen für Deutschland e.V.: Follmann was a founding member of the Knowledge Factory – Companies for Germany initiative, founded in 2005 as a charity. Working with other stakeholders in society, the members intend to make Germany fitter for the future and equip the younger generations for the challenges of the knowledge society.

future e.V. – Responsible Companies: Dr Rainer Follmann was a co-founder of this society of SMEs in 1986. The founders took the view that financial success and environmental awareness are not contradictory but are in fact closely linked.

Responsible Care
Our commitment to sustainability

CHEMIE³
Wir machen mit.

DGNB®
Deutsche Gesellschaft für Nachhaltiges Bauen e.V.
German Sustainable Building Council

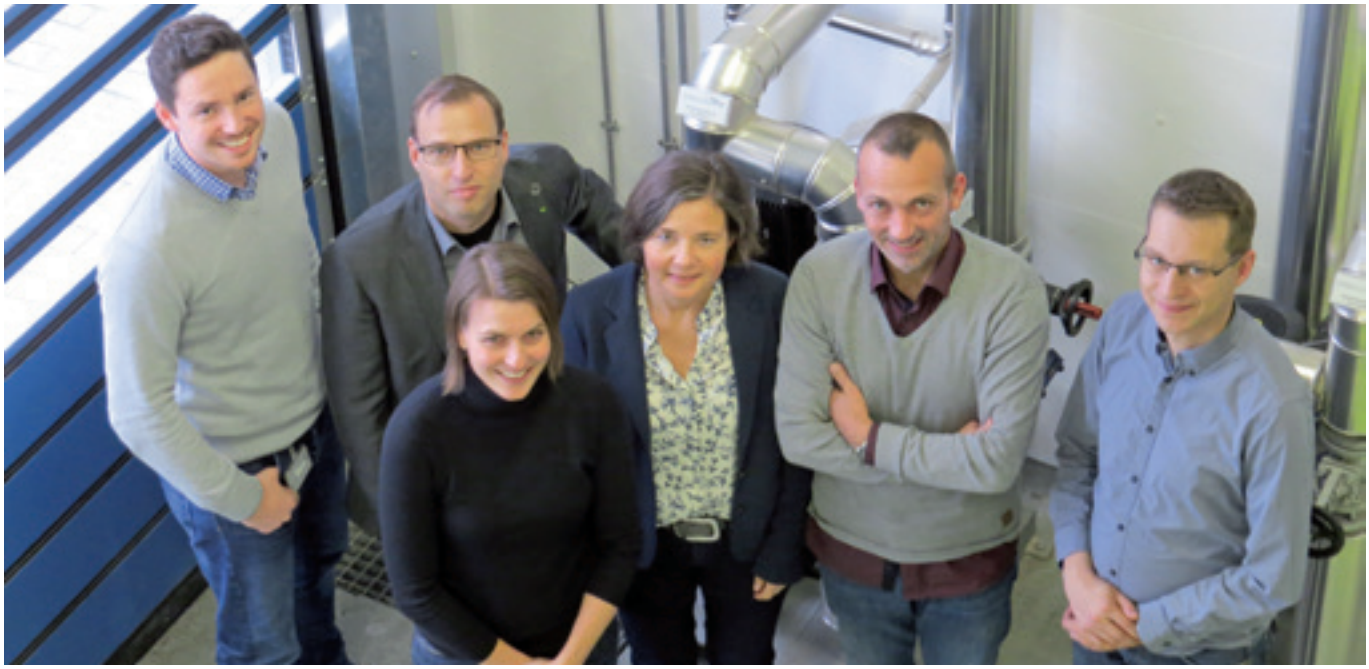
Our sustainability checks

We want our activities to become progressively more sustainable. That is why we performed a sustainability review in 2013 and, based on the results, defined priorities and prioritised actions. At that time, we decided to initially focus on the areas of health and energy management as well as on social commitment.

In 2017, we carried out our second sustainability review. As part of the Chemie³ sustainability initiative of the German Chemical Industry, a special sustainability review was developed for small and medium-sized enterprises in the chemical industry based on the initiative's twelve guidelines. The aim of this new review was to take account of the changed conditions since 2013 and, on the basis of these, to set new priorities and establish specific projects and measures. The first step was to identify the stakeholders, because these interest groups today place very high and very different demands on us when it comes to acting dutifully as a company in economic, social and ecological matters. These processes are not always easy and often involve in-depth discussions, as they usually need to run across departments. We will repeat this review on a regular basis to measure our progress and take into account changing circumstances.

The relevant projects that we commenced based on the 2017 sustainability review are listed here:

Field of action	Project	Objective
Sustainability standards in the supply and/or value chain	"Sustainability in the supply chain"	Establish a sustainable supplier management system that not only considers quality, price and supply reliability, but also environmental protection, ethical and social standards.
Work-life balance (compatibility of work and family)	"New work"	Creating new concepts and ways for the new working world of the future.
Communicating with and providing information for interest groups	Redesigning the sustainability report	Providing a better overview of our sustainability performance.



Our sustainability management

In-house sustainability working group

In order to continuously support the goals and projects from the sustainability review, we have formed an in-house sustainability working group with representatives from all three companies: Management, Environment & Safety, Purchasing, Quality Management, Sales, Human Resources and the Works Council are all represented in this new body. This group meets twice a year to discuss the progress of the projects that have emerged from the review and to steer the sustainable development of the group in general.

EcoVadis sustainability rating

EcoVadis is the supplier of the first collaborative platform for supplier evaluation with regard to sustainability aspects. The EcoVadis rating evaluates the performance of suppliers with respect to 21 corporate social responsibility and sustainability criteria. Since 2015, we have been a member of EcoVadis and in 2017 again successfully affirmed our “Silver” rating. Here, too, we want to continuously improve and work steadily on our sustainability performance.


ZERTIFIKAT

ISO 9001:2015

DEKRA Certification GmbH bescheinigt hiermit, dass das Unternehmen

Follmann Gruppe

Follmann Chemie GmbH

Zertifizierter Bereich: Herstellung von Spezialchemikalien für die Bedarfe der Follmann GmbH & Co. KG und der Triflex GmbH & Co. KG
Zertifizierter Standort:
D-32423 Minden, Heinrich-Follmann-Straße 1

Follmann GmbH & Co. KG

Zertifizierter Bereich: Entwicklung und Vertrieb von Spezialchemikalien für die dekorative und funktionale Gestaltung von Oberflächen
Zertifizierter Standort:
D-32423 Minden, Heinrich-Follmann-Straße 1

Triflex GmbH & Co. KG

Zertifizierter Bereich: Entwicklung, Vertrieb und Beratung zur Anwendung von Zweikomponentenharzen sowie von Markierungswerkstoffen
Zertifizierter Standort:
D-32423 Minden, Karlstraße 59

ein Qualitätsmanagementsystem entsprechend der oben genannten Norm eingeführt hat und aufrechterhält. Der Nachweis wurde mit Auditbericht-Nr. A17021122 erbracht.

Dieses Zertifikat ist gültig vom 26.04.2017 bis 24.04.2020

Zertifikate Registrier-Nr.: 804382823/4

Lothar Wallenfen
DEKRA Certification GmbH Stuttgart, 26.04.2017

DEKRA Certification GmbH * Handwerkstraße 15 * D-70565 Stuttgart * www.dekra-certification.de

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ZERTIFIKAT

ISO 14001:2015

DEKRA Certification GmbH bescheinigt hiermit, dass das Unternehmen

Follmann Gruppe

Follmann Chemie GmbH

Zertifizierter Bereich:
Herstellung von Spezialchemikalien für die Bedarfe der Follmann GmbH & Co. KG

Zertifizierter Standort:
D-32423 Minden, Heinrich-Follmann-Straße 1

Follmann GmbH & Co. KG

Zertifizierter Bereich:
Entwicklung und Vertrieb von Spezialchemikalien
für die dekorative und funktionale Gestaltung von Oberflächen

Zertifizierter Standort:
D-32423 Minden, Heinrich-Follmann-Straße 1

ein Umweltmanagementsystem entsprechend der oben genannten Norm eingeführt hat und aufrechterhält. Der Nachweis wurde mit Auditbericht-Nr. A17021122 erbracht.

Dieses Zertifikat ist gültig vom 26.04.2017 bis 24.04.2020

Zertifikate Registrier-Nr.: 170408038/3

Lothar Wallenfen
DEKRA Certification GmbH Stuttgart, 26.04.2017

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ZERTIFIKAT

ISO 50001:2011

DEKRA Certification GmbH bescheinigt hiermit, dass das Unternehmen

Follmann Chemie GmbH

Zertifizierter Bereich:
Herstellung von Spezialchemikalien

Zertifizierter Standort:
D-32423 Minden, Heinrich-Follmann-Straße 1

ein Energiemanagementsystem entsprechend der oben genannten Norm eingeführt hat und aufrechterhält. Der Nachweis wurde mit Auditbericht-Nr. A17021122 erbracht.

Dieses Zertifikat ist gültig vom 26.04.2017 bis 24.04.2020

Zertifikate Registrier-Nr.: 180414029/1

Lothar Wallenfen
DEKRA Certification GmbH Stuttgart, 26.04.2017

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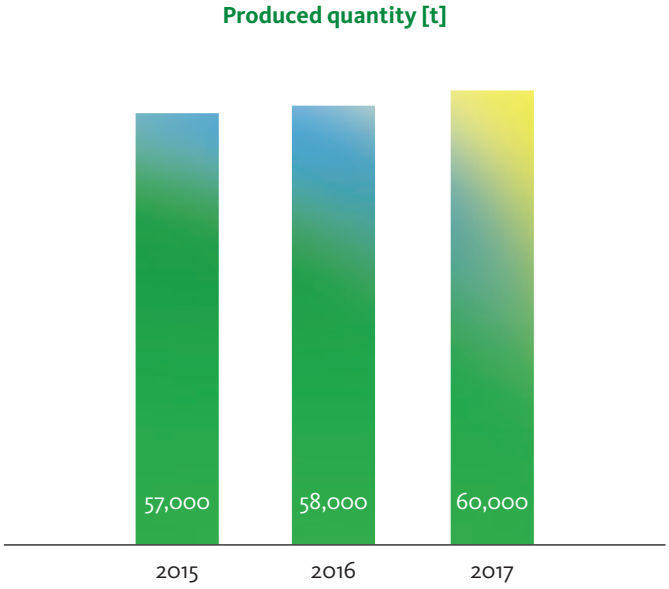


Fiscal year 2017

In 2017, our sales target of 200 million euros and the production target of 60,000 tonnes were achieved. The number of employees increased to more than 700 employees, of which around 500 are at the Minden site. We were again able to keep our international share at around 50 %. The emphasis here is on exports to Western and Eastern European countries.

In addition, the new construction-chemical production building was largely completed at the Minden site. This is one of the largest investments in the company's history and is a clear commitment to Minden as a location. The office and laboratory rooms were already moved into the new building in the autumn of 2017. From the middle of 2018, production is to be used for its purpose.

As part of the international growth strategy of the Follmann Chemie Group, a property was acquired east of Moscow. From 2018, the Russian subsidiary OOO Follmann will move into a building to oversee administration and warehousing in Russia. In the medium term, it will also be possible to start production there.

Challenges arose, in particular, from the sharp increase in raw material prices. In addition, Europe is increasingly becoming an import market for chemical raw materials, which places special demands on our raw material supply.

Furthermore, the issues of digitisation and internationalisation influenced the development of the entire Group. Therefore, several projects have been initiated in these areas. The aim is to make the Group more efficient in all areas under the motto "simple and clever".

In 2017, the structures and organisation of the Group were advanced in order to optimally make use of the opportunities brought about by digitisation and internationalisation. This includes, for example, the introduction of group-wide supply chain management system. At Follmann KG, the establishment of the Product Management and New Business departments has optimised the process and organisation of implementations of a customer request or a new idea. Furthermore, we have repositioned the Sales departments at both Follmann and Triflex.

Changes were not only made at the organisational level. To facilitate ideal working conditions for networked and communicative working, various conversion measures were initiated. This was an important step towards establishing high-quality workplaces.

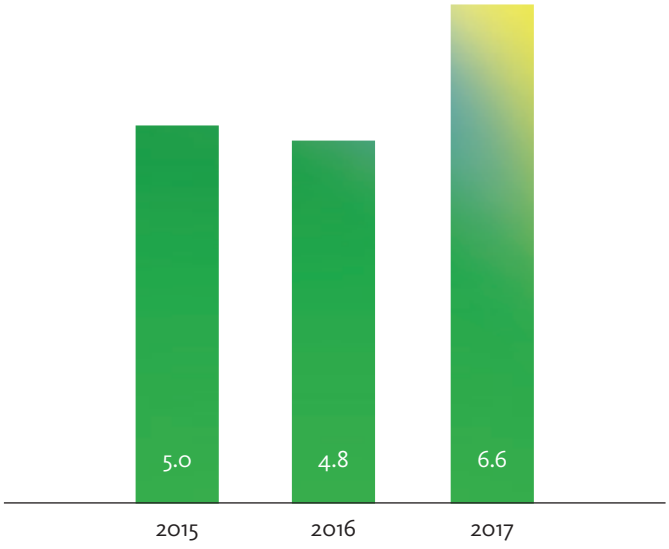
Sustainable procurement

Owing to the five different business units, our raw material portfolio is very extensive for a medium-sized company in the chemical industry and can be divided into 20 different commodity groups, such as monomers, binders, fillers, waxes, resins and pigments.

During the 2017 sustainability review, we identified that we want to make our supply chain more sustainable. That is why we decided to participate in the Chemie³ pilot project "Sustainability in supply chains". In this project, we worked with seven other companies in several workshops on the following topics: identification of sustainability issues in supply chains and their risk assessment, implementation of the components for sustainable supplier management as well as the evaluation and development of own suppliers. When identifying the main supply chains, we initially focused on raw materials, where we have little transparency or where we assume a risk, for example, due to the country of origin.

On this basis, we have identified a first area where action is needed: the affected supply chains and suppliers should be addressed to discuss possible risks and should be collaboratively further developed as part of the supplier management process.
In order to assess the sustainability performance of our suppliers more objectively, we have been a member of EcoVadis since the pilot project and intend to incorporate the sustainability performance of our suppliers in our supplier management system in the future.
Finding the right balance between quality, delivery security, competitive pricing, environmental protection and ethical and social standards is a big challenge for us.

Emissions of volatile organic compounds [t]

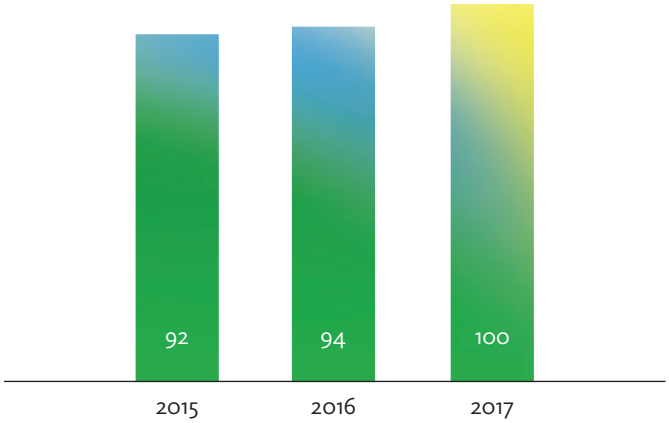


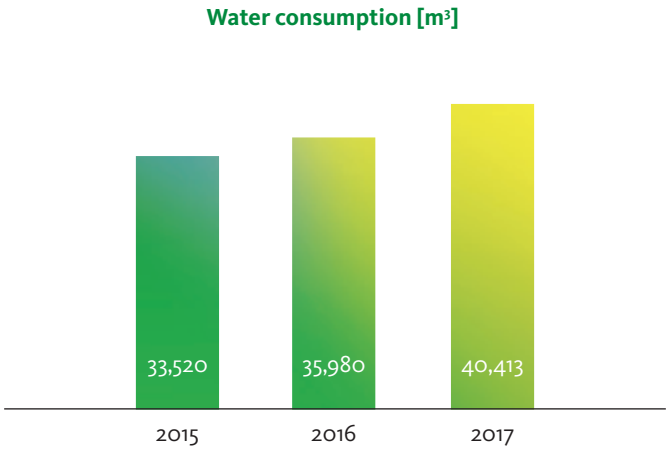
Emissions

Our production operations produce and release emissions of dust and volatile organic compounds (VOCs) into the air.
Volatile organic compounds are created by using of carbon-based raw materials in our production processes. To minimise VOC emissions and odours, the exhaust air from construction chemicals production and microencapsulation is routed via a regenerative thermal oxidiser (RTO) for the treatment of exhaust air. The construction of the RTO allowed us to reduce our VOC emissions by more than 80 % (2007: 40 t VOC emissions). VOC emissions from the other areas correlate, on the one hand, with the production volume (longer emission times) yet, on the other hand, also depend on the type of products produced. The emissions vary depending on the VOC content of the raw materials used.

In 2017, we saw an increase in VOC emissions. This is partly due to higher production volumes of plastisols and hot-melt adhesives and partly due to increased VOC emissions from our polymerisation plant. To reduce these emissions again, we plan to connect the polymerisation plant to our existing RTO.
Dust emissions arise out of the use of powdered raw materials such as pigments and fillers. In all production areas in which we use powdery raw materials, we have installed powerful dust filter systems. Our emitted dust levels are therefore very low and in the range of 100 kilograms per year. The dust emissions correlate with the production quantities of products with a high proportion of powdered raw materials.

Dust emissions [kg]



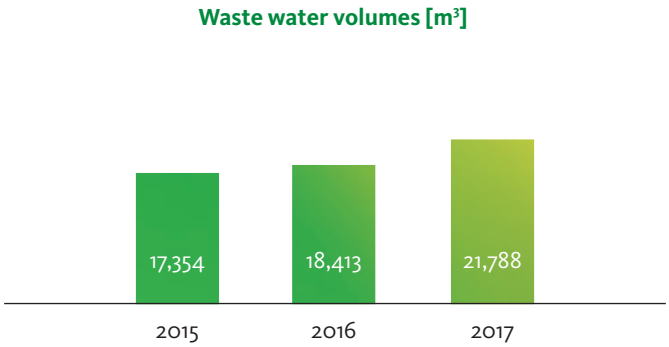


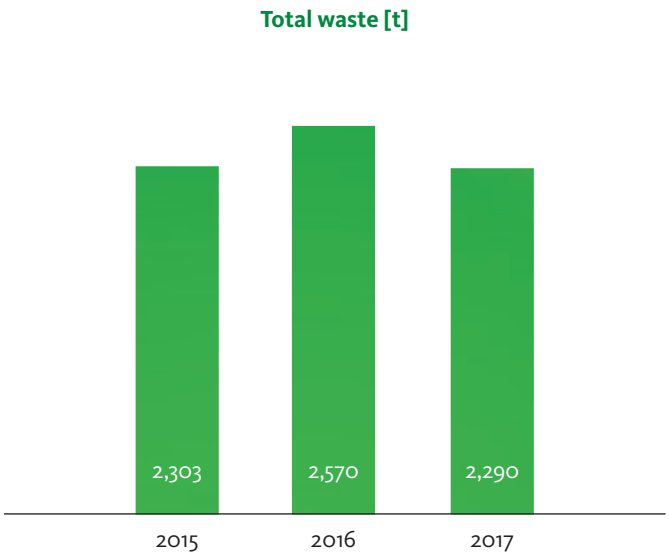
Water and waste water

Our water requirement is mainly met by the Minden municipal water supply network. Water is used as a raw material in products, for cleaning purposes in the plant, as a coolant, as boiler feed water for steam generation and for sanitary facilities (toilets, showers, kitchens). Since 2015, we have covered a small part of our water requirement with well water, which is used in particular for the operation of the cooling system in our energy station. In 2017, demand for water increased by more than 12 % compared to the previous year, much of which was attributable to the higher consumption of fresh water in our energy station. In addition to higher steam generation volumes, technical causes in the operation of the water softener and the mixer led to the increase in water consumption. In the future, we will make these more efficient and thus achieve savings.

Our waste water consists mainly of water used in operations (cleaning purposes) and sanitary facilities (toilets, showers, kitchens) as well as from the steam system. The increase in waste water volume in 2017 can also be attributed to the increased water consumption of the steam boiler in the energy station.

The waste water from operations is first clarified in an on-site pretreatment plant, before being fed into the public sewerage system for complete purification. Our indirect discharge approval specifies limit values for certain hazardous substances for the waste water, which we monitor on a regular basis. According to all these monitoring activities, we were well below the limit values for all parameters.

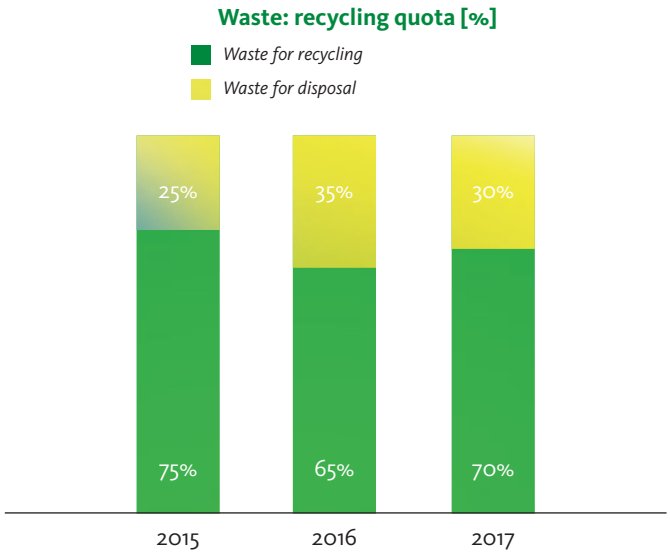


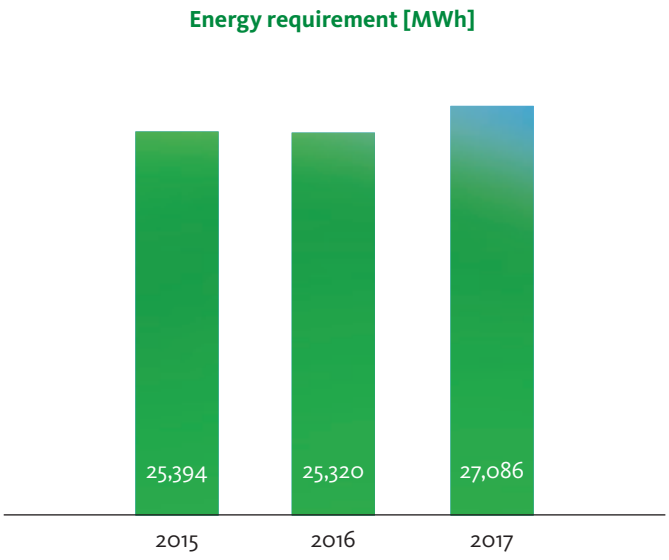


Waste

Compared to 2016, the total amount of waste produced by the company decreased by 11 % and has reached the 2015 level again. In the previous year (2016), we had an unusually high total amount of waste due to various factors: as a result of the water legislation requirement which demands that the reservoirs of waste water pretreatment plants be checked for leaks, we were obliged to empty and thoroughly clean our facilities. In addition, we had to clean a large number of tanks which, together with some failed approaches, also made a significant contribution to the overall increase in waste. In 2017, compared to 2015, we were able to reduce the total amount of waste despite an increase in production volume, so that the amount of waste per tonne of product produced dropped by more than 5 percentage points. This is due, in particular, to a reduction in the volumes of paint and ink sludge as well as discarded superimposed goods (raw materials). Reducing our amount of sludge per cleaned cubic metre of waste water also helps to minimise the amount of waste.

Reflecting our product diversity, the company produces roughly 50 different waste fractions, which are separately collected and disposed of. We regularly review the disposal options, giving preference to recycling, and especially reprocessing, where economically feasible.
In the year under review, our recycling ratio rose by 5 percentage points to 70 %. In contrast to the previous year, we were able to reduce the amount of waste for disposal and have thus again reached an encouragingly high rate of waste for recycling.
In accordance with waste management regulations, waste is generally classified according to whether it contains hazardous substances. But because we use hazardous substances in our processes, the production of waste classified as hazardous is unavoidable. As in the previous year, the proportion of hazardous waste in 2017 made up around one third of the total waste volume.



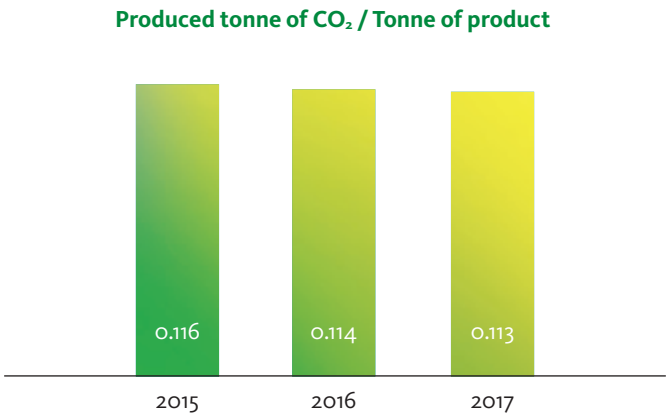


Energy

The energies we use on site are natural gas, electricity, diesel and liquid gas. Natural gas is used to operate our energy station, for heating and for auxiliary firing of the thermal exhaust air cleaning plant. The energy station commissioned in 2015 comprises two combined heat and power plants with steam boilers and a refrigerating plant. The goal of this system is to cover our basic steam, electricity, heat and refrigeration requirements at our site in the most resource-effective way possible. Diesel is used for the emergency generators and for internal swap body transporters, heating oil for the Kärcher machines. Liquid gas is used as fuel for the forklifts. 46 % of the electricity we used in 2017 came from our own combined heat and power plants in the energy station (2016: 41 %). In 2017, we were able to achieve our goal of a 10 % increase in full utilisation hours for the combined heat and power plant and this in turn, also enabled us to increase the amount of energy we produced ourselves.

After our 2016 energy procurement remained the same as in the previous year (approx. 25,000 MWh), it rose in 2017 due to higher production volumes. We have decided to evaluate our energy consumption based on the level of carbon dioxide emissions caused by the combustion of fossil fuels on site and by the production of the electricity which we procure externally. In 2017, we were able to further reduce carbon dioxide emissions per tonne due to our increased production volumes.

Energy sources	2015	2016	2017
Natural gas [MWh]	19,748	19,590	21,377
Diesel / fuel oil [MWh]	212	240	238
Liquid gas [MWh]	582	610	659
Electricity [MWh]	4,852	4,880	4,628
Total [MWh]	25,394	25,320	27,086



Milestones

Right since the founding of the company, ecological goals and innovations have been an integral part of the company philosophy. The following chronological presentation provides an overview of many of the company's different activities.

1981
Development of water-based foam printing inks for textured wallpapers

1984
Development of solvent-free tissue printing inks

1985
Elimination of use of chlorinated hydrocarbons

1986
Founding member of the "Förderkreis Umwelt future e.V." environmental association

1988
Establishment of the "Environment & Safety" department and appointment of the first Environmental Protection Officer

1990
Introduction of solvent-free printing inks in the European wallpaper industry

1991
Founding of the industry and commerce environmental initiative in the Minden-Lübbecke district

1992
Development of the world's first chlorine-free plastisol for wallpaper coating

1994
Implementation of a new concept to increase sales in reusable containers

1997
Set-up of an environmental management system according to DIN EN ISO 14001 and integration into the existing quality management system

1998
Recycling instead of disposal of PVC waste paste and films

1998/99
Award for environmental awareness in company management from the "Arbeitsgemeinschaft Selbständiger Unternehmer" (working group of independent entrepreneurs)

2000
Development of VOC-free printing inks for tissue printing

2002
Recycling of more than 50 % of all waste

2003
Development of a new reaction process for adhesives in order to minimise the residual monomer content

2004
Participation in a research project of the German Federal Environmental Foundation (DBU) for the development of VOC-free film printing inks for flexible packagings (2004-2006)

2006
Sound insulation: Installation of a housing for an extraction fan and the corresponding dust extraction system as well as a sound insulation pipe

2007
Installation of a new dust extraction system to reduce dust emissions from construction chemicals production and WBC production (reduction of dust emissions from 4 tonnes to 150 kg per year)

2008
Installation of an exhaust air cleaning plant (RTO) to reduce emissions of volatile organic compounds (VOC) by 20 tonnes per year

2009
Installation of caustic treatment to eliminate the use of organic solvents for container cleaning and significantly reduce the emissions of volatile organic compounds (VOC)

2010
Reduction in our use of solvents by over 10 tonnes per year by shutting down the solvent container washing system

2011
Development and market launch of water-based printing inks for flexible packaging (e.g. carrier bags and plastic films)

2013
Introduction of an energy management system according to ISO 50001

2014
Installation and commissioning of an energy station comprising a combined heat and power plant with a steam boiler and refrigerating plant

2016
Housing and sound insulation of our water chillers in the polymerisation system in order to minimise ambient noise emissions

2017
Implementation of various noise control measures in hot-melt adhesive production to reduce the noise level below the level for noisy areas

Employees

The Follmann Chemie Group is continuously growing in terms of revenue and sales. This goes hand in hand with a steady growth in the number of employees. By the end of 2017, the number of employees of the Follmann Chemie Group had risen to over 700, approximately 500 of whom work at our site in Minden.

Employees are the most important source of our success, which is why ongoing promotion and development is a matter of course for us.

Employee development – talent development program

Our talent management programme is an effective tool for systematically identifying and promoting hitherto "undiscovered employee strengths", and for retaining high-performing employees in the Follmann Chemie Group in the long term. Over the course of three years, we strive to further develop talented employees in a targeted and individual manner, to build up corporate knowledge and to promote their entry into new fields of activity and/or their career advancement.

Innovation needs competence

Today's working world is ever-changing, and this brings with it new challenges for everyone. Lifelong learning is very important here, and we offer our employees a variety of in-house training options in addition to external specialist training courses: product training, foreign languages, MS Office, methodological skills as well as personal and social competence are offered every year.

New Work

The "New Work" project emerged as a result of our 2017 sustainability review. It involves creating new concepts and ways for the working world of the future, which has to adapt to a shift in values driven by digitisation and globalisation. Traditional concepts concerning time, space and organisation of work and the work environment need to be re-thought and revised. This is by no means a simple step, but is an undertaking that requires not only time, but also responsibility, courage, openness, trust and flexibility towards and by all concerned. The topic is currently on everyone's lips, and we also consider it a key building block for our future way of working. But when it comes to the question of what the future working world will look like, there is not just one single answer. This, in turn, means that there are no fixed standards on how the issue should be handled and anchored in our corporate culture. With the project, we will find our response to "New Work" by combining the requirements of the Follmann Chemie Group and systematically targeting specific issues. Over the next few years, the project group will work intensively on the aspect of satisfied and motivated employees in a great working environment in order to remain an attractive employer for both existing and future employees.

Education

The Follmann Chemie Group provides training opportunities for an exceptionally large number of young people. Today, we offer apprenticeships in five different specialisations. In addition to the original apprenticeships as industrial business management assistant, chemical laboratory assistant and chemical technician, we now also offer apprenticeships in the fields of mechatronic engineering and warehouse logistics. At present, 30 young people are completing their training at our company. Almost 100 % of them will be hired.
Alongside the training, we offer **various courses** especially for our trainees. These include instruction in MS Office, presentation techniques and communication.

For team building purposes, we organise trips only for our trainees three times a year. In 2017, they had to demonstrate their team spirit and free themselves from an **escape room**, and they were able to gain first-hand insights into one of our raw material suppliers. The training always concludes with a communal **closing dinner.**

Training Day – occupations close up

Every year we invite pupils from near and far to our Training Day. Our training course includes all professions in which we offer training, and comprises a variety of stations to try out, test and marvel at. In 2017, around 80 pupils and their parents had the opportunity to experience what it's like to work at a chemical company.

Job application training and vocational information days

In order to offer young people career support and guidance, we provide job application training at both the **Freiherr-vom-Stein vocational school** and the **Leo-Sympher vocational school** every year. We also participated in the career information days at the **Petershagen Grammar School**, the **Herder Grammar School** and the **Bessel Grammar School** in Minden.

Occupational Safety

The topic of **occupational safety** and the safe use of our products are a top priority for us. This is reflected in numerous measures and projects throughout the Group and the involvement of many employees in these.

Occupational safety has been an integral part of our management system since 1997. It is professionally organised and an integral part of our everyday activities. In 2016, we appointed three specialists for occupational safety from the fields of Technology, Production and Environment & Safety. In addition to these three specialists, who trained with the German employer's liability insurance association, we also have twelve safety officers and a large number of first-aiders and fire safety assistants. To complement their basic training, all these officers also receive continuous further training. The various aspects of occupational safety and hazard prevention are the subject of regular internal and external training courses; tailored to the requirements of the specific employee's job.
In 2017 we carried out the fire protection training with practical fire extinguishing exercises, which takes place every three years for all employees at the site.
We have anchored preventive safety measures in our management system at the organisational, personnel and technical levels. If an incident occurs, these safety measures are effective in limiting the impact on people and the environment. They are laid down in our operational alarm and hazard prevention plan (BAGAP). The annual BAGAP training is compulsory for all employees on the site.
In 2017, we started to convert our internal training to an electronic training system in order to be able to assign the numerous (legally required) instructions to the individual workplaces and activities, and to minimise the organisational burden on the managers. Depending on the workload, employees can independently choose the time for their instructions. Through clear instruction documents, regular comprehension checks and a tool for the employees to leave feedback for the creators of the training documents, this system continuously improves knowledge transfer.
Regular site inspections are held in Production and Logistics as well as in Research & Development to check adherence to the statutory and internal requirements for environmental protection and health and safety. Possible improvements and deficiencies are identified and documented, and their implementation/rectification is tracked. Minor deficiencies and less complex improvement measures are implemented in a timely manner. Major deficiencies or more extensive improvement potentials are included in a programme of measures for safety, health and environmental protection. In 2017, 34 such site inspections were conducted and they also included the employee representatives. In addition, we conduct hazard assessments for all areas. Senior management and all affected line managers are informed of the results of the inspections and hazard assessments.

Occupational accidents

We have been systematically recording occupational accidents since 1991, and now that occupational safety has been incorporated into our management system, a thorough analysis of each accident is conducted. We record both notifiable (to the German employer's liability insurance association) and non-notifiable accidents.

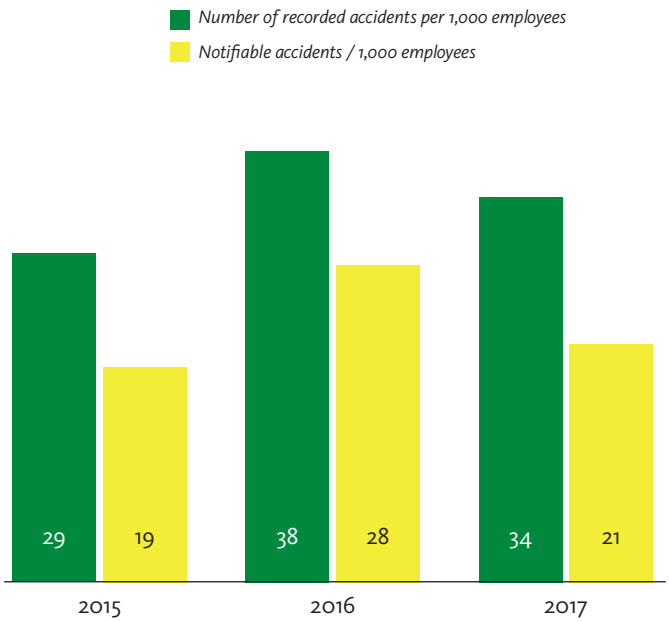
At 21 notifiable accidents per 1,000 employees, the number of accidents in 2017 has declined by 25 % compared to the previous year.

The sum of all recorded accidents (notifiable and not notifiable) has also fallen (by 10 %). Despite the lower accident rate, the number of days lost compared to the previous year, however, increased by 14 %. However, nearly 40 % of the days lost in 2017 were caused by the worst chemical accident that has ever happened in our company: due to unfortunate circumstances, an employee – despite wearing full personal protective equipment including goggles and face shield – sustained injuries to one eye.

This was reason for us to fundamentally question our existing and previously hitherto proven practices and protective measures for the handling of corrosive liquids. One result of this is the new rule that when dealing with corrosive liquids, safety spectacles must always be worn under the protective shield instead of regular goggles. Furthermore, new transport vessels (cans) and pumps for corrosive liquids were tested.

Based on these experiences, further safety measures for the handling of corrosive chemicals will be introduced in all production areas in 2018.

Number of occupational accidents



Health management

As a company, we have a natural interest in ensuring that our employees are healthy, motivated and thus able to perform in the long term. For this reason, we launched our health management programme in the Follmann Chemie Group in 2013. The initial information events were obligatory for all employees. Since then, we have been offering regular training events and various campaigns related to health, and we hold Health Days focusing on different topics every year.
Our health programme aims to help our employees to become more aware of their health and do more to sustain it. This enhances their quality of life and satisfaction, and preserves their motivation and ability to perform.

IN 2017, WE OFFERED THE FOLLOWING:

Health Day
- Mobile massage
- Respiratory volume test
- Determination of heart attack / stroke risk
- Back check
- Mini health check
- Foot measuring
- Company bicycle information stand
- Vienna Test System measuring stress
- Talk on “Compatibility of family and work”
- Talk on “Healthy sleep”
- Talk on “Fit for change”

Services offered throughout year
- Company massage service
- Free external courses:
  Fascia training
  Back exercises
  Autogenic training
  Qigong
  Life Kinetics
  Dietary consultation
- Flu vaccine
- Free drinks (water, tea, coffee)
- Fresh apples for all employees every week
- After-work cooking

Social life

"Social commitment has been a core component of our corporate culture for many years"
(Dr Henrik Follmann)

In addition to our clear commitment to the Minden region and the expansion of our local operating site, we are involved in a variety of ways in Minden. Amongst other things we assist local schools, the parent and child centre at the Johannes Wesling hospital and the child protection association in Minden-Bad Oeynhausen. Local sports clubs are also sponsored and the regional activities of our staff are actively encouraged and supported.
We give young people the opportunity to do internships, to write BA and MA theses and do vocational training whilst studying.
For years now, we have participated in the "Futures Day" scheme to give children and teenagers a taster of career opportunities at the company.
We encourage communication with our neighbours, interested citizens and politicians by inviting them to various events held in our company.

Examples of our social commitment in the region

- We supported the work of the **Rehburg-Loccum workshops for the blind** by purchasing large quantities of brooms and hand brushes for our product sets every year
- Financial support of the municipal fire brigade meet-up of the **Bierde firefighters**
- **Sponsorship of sports clubs:** Support of the TUS Möllbergen women's handball team with functional sportswear
- Participation in a rowing cup and in various **company and charity runs**
- Promotion of **GWD Minden**

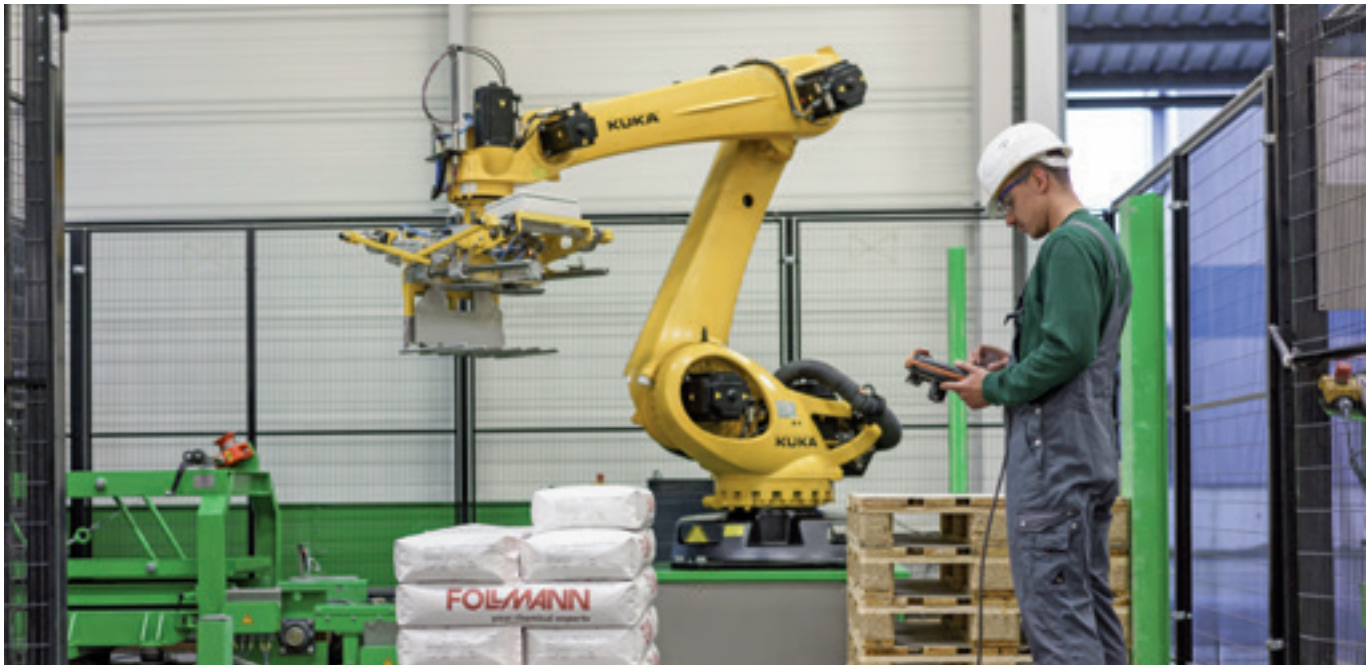
- Support of the schoolyard redesign at **PRIMUS School** in Minden through a donation
- Funding an action day at **Michael Ende School in Minden**
- Annual foundation of a prize awarded to top-performing pupils at the **Bessel Grammar School in Minden**

- Procurement of a huge parachute for the **Kindergarten Biberburg e.V.** support organisation
- Main sponsor of the "World record attempt: Learning to juggle in 20 minutes" of the **Kinderschutzbund Minden-Bad Oeynhausen e.V.**
- Participation in the **8th Children's Wish List Campaign** at the Weserspucker
- Support of the **parent-child ward of the Johannes Wesling Clinic Minden**

Overarching sustainability goals

As part of our sustainability management, we also set ourselves quantitative targets in the areas of safety, environmental and health protection as well as energy by means of indicators and their target values, and we review them annually:

Overall target	Indicator and target	2017 result
Raw materials		
We aim to avoid as far as possible the use of raw materials classified as toxic or CMR*.	**Proportion of toxic substances purchased** [Volume of "toxic/CMR" raw materials purchased] / [Total volume of raw materials purchased] **< 1 %**	Clearly achieved
Water consumption		
We aim to minimise the use of fresh water for production as far as possible.	**Water indicator** [Fresh water consumption for processes (m^3) / Production volume (t)] **≤ 0.32 m3/t**	Clearly failed
Waste volume		
We aim to keep the volume of waste produced to a minimum on a permanent basis.	**Waste indicator** [Total waste (t) / Production volume (t)] **≤ 0.035**	Narrowly failed
Waste treatment		
We aim to keep the volume of waste produced to a minimum.	**Disposal ratio** [Waste disposal volume / Total waste volume] **< 40 %**	Clearly achieved
CO_2 emissions		
We want to keep CO_2 emissions as low as possible in relation to our production volume.	**Global CO_2 index** [CO_2 emissions (t) CO_2 / Production volume (t)] **≤ 0.111** **(referring to 2019)**	On the right track



Raw materials

Within the framework of our management system, the development departments ensure that particularly hazardous substances are only used in exceptional cases. We ensure that hazardous substances are handled in a safe and responsible manner in our Group. We have set ourselves the goal of avoiding the use of acutely toxic substances and substances with CMR properties (i.e. carcinogenic, mutagenic or toxic for reproduction) as far as possible. In doing so, we wish to minimise handling of these substances by our employees (and by our customers).

Water consumption

We clearly missed the target for our water indicator in 2017. Increased technical and regulatory requirements as well as an increased demand for steam for production purposes resulted in an understandable increase in water requirement. In addition, operational disruptions also contributed to higher water consumption.

Waste volume

Compared to the previous year, our waste volume was down by almost 11 % in the last year. We narrowly missed our target for the waste indicator. The decrease of the waste volume compared to the previous year is due to a reduction in the volumes of paint and dye sludge as well as the quantities of discarded stock goods. Reducing our amount of sludge per cleaned cubic metre of waste water also helped to minimise the amount of waste. By implementing further waste reduction measures, we aim to once again safely meet our target for 2018.

Waste treatment

Approximately 70 % of our waste was recycled or used as fuel in 2017. The disposal ratio is clearly below our target value, which means we have once again achieved our goal here. Compared to the previous year, we have improved by five percentage points. This is mainly due to the fact that we were able to recycle more containers (plastic, metal) which were to be disposed of as well as product and raw material residues.

CO_2 emissions

The general conditions still need to be developed for us to reach the CO_2 target value for our global carbon footprint of 0.111 t CO_2 / t product. Only once our new construction-chemical production facility is fully operational, can the two CHP units in the energy station reach their full capacity and we achieve the required full usage hours per year. This will presumably not be realised until 2019, so until then we will consider every reduction of the indicator a success.

Implemented projects: Safety, health, environmental protection and energy management 2017

As part of our safety, health and environmental protection as well as energy action programmes, the projects for greater optimisation potential and for remedying major deficiencies are documented and tracked. These are the results of some of the projects completed in 2017:

Initiated by	Department	Measure, goal and result
Occupational Safety		
Inspection	Production Polymerisation	Optimisation of access to pig system control through various individual measures in order to safely perform maintenance activities (including laying of piping and pressurised air lines, procurement of a new ladder).
Inspection	Batch Vessel and Container Cleaning (ABuCo)	Procurement of an assembly table to guarantee ergonomically and safety-optimised cleaning of the vessel outlets.
F-LOG team	Finished Goods Logistics	Procurement of four height-adjustable roller tables to make replacing the heavy batteries of the high-bay forklifts safer, more ergonomic and less labour-intensive.

Energy management		
Energy team	Production Plastisols	A modern temperature regulation system was installed for hall heating in order to save heating energy (gas). This now regulates the heating according to weather conditions.
Employees	Production Hot-melt Adhesives	The production of the hot-melt adhesives was switched to a triplex operation method for each product. This reduces the conversions when changing products and reduces power consumption (and waste).

Operational safety		
Inspection	Production Polymerisation	Complete replacement of the insulation and lining of the adhesive reactors

Hazardous substance management		
Risk assessment	Raw Materials Storage	Procurement of two hazardous substance containers for the safety-optimised storage of temperature-sensitive substances with integrated temperature control.

Operational hazard prevention		
Employees	Production Polymerisation	Installation of two additional triggers (at the outputs) for the inhibitor feed to the polymerisation reactor for printing ink resins.

Planned Projects: Safety, health, environmental protection and energy management 2018

Various health, safety, environmental and energy management projects and measures are also planned for the current year 2018 within the framework of our measure programmes. Some of the projects from various areas of the firm which we aim to realise in 2018 are listed below:

initiated by	Department	Action and Objective
Occupational Safety		
Inspection	Technology – waste water pretreatment plant	Optimisation of dust extraction for preparing the limewash in the waste water pretreatment plant in order to minimise the dust load in the air.
Employees	Fuel depot Hall 35	In order to increase employee safety during maintenance of the storage tanks, the personal safety system is to be optimised.
Accident analysis	Production areas	In light of the aim of avoiding chemical accidents, additional safety measures should be introduced for the handling of corrosive liquids in all production areas.

Energy management		
Employees	Production Hot-melt Adhesives	Optimisation of cooling control in the production of hot-melt adhesives to reduce the power requirement by adjusting the flow temperature to the respective manufactured products.
Energy team	Production Polymerisation	Improvement in the regulation of chillers, and optimisation of the interaction with the energy station and cooling water control with the aim of reducing the power requirement.

Energy management – climate protection		
Energy team	Company-wide	Reduction of CO_2 emissions by 100 t by the end of 2018 (starting point 2015) through an increase in the full utilisation hours of the combined heat and power plant.

Emission control		
Approval	Production Polymerisation	In order to reduce the increased VOC emissions again, we plan to connect the exhaust air of the adhesive reactors of the polymerisation plant to our existing emission control system (RTO).

Water Conservation		
Technology	Production Construction chemicals	With the commissioning of the new construction-chemical production facility, we have the opportunity to reduce the amount of process water by returning condensate water from the steam plant.

Glossary

BU
Business unit Follmann GmbH & Co. KG Vertrieb is divided into four strategic business units: Print & Packaging, Interior Decoration, Functional Solutions & New Business and Wood & Furniture.

Chemi³
Chemie³ is an industry initiative of the initiative of the German Chemical Industry Association (VCI), the Federal Employers' federation (BAVC) and the trade union for the mining, chemical and energy industries (IG BCE), and is committed to sustainable development in the chemical industry.

CHP
A combined heat and power plant (CHP) is a modular system for the production of electrical energy and heat. We use a gas-powered internal combustion engine as the drive for the power generator.

CO_2
Carbon dioxide: a colourless, odourless and tasteless gas. Arises during the combustion of carbonaceous substances and is considered to be one of the causes of the greenhouse effect.

DGNB e.V.
The German Sustainable Building Council (DGNB e.V.) is a non-profit and non-governmental organisation whose mission is to develop and promote ways and solutions for the sustainable planning, construction and use of structures.

EcoVadis
EcoVadis operates the first collaborative platform that enables companies to measure the sustainability performance of their suppliers. EcoVadis has set itself the goal of improving environmental and social practices through the consistent use of global supply chains.

EMAS
Eco Management Audit Scheme: general name of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme.

Emissions
Solid, liquid or gaseous substances as well as noise, heat and radiation emitted into the environment.

End-of-line packaging
Packaging process at the end of the manufacturing process.

ETAG 005
European Technical Approval Guidelines – Guideline for European Technical Approval 005: Liquid-Applied Roof Waterproofing.

Food application
Application in the food industry.

ISO
The International Organisation for Standardisation – ISO for short (from Greek: isos, English: equal) – is the international association of standardisation organisations which develops international standards.

Non-food application
Application in areas without contact with food

PE, PP, PET, PA, OPP, PVC
Materials for plastic films: polyethylene, polypropylene, polyethylene terephthalate, polyamide, oriented polypropylene, polyvinyl chloride.

RC – Responsible Care
Responsible Care is an initiative of the chemical industry with the objective of striving for continuous improvement of the companies in the areas of environment, safety and health, irrespective of legal requirements, and to publicise this progress on a regular basis.

RTO
Regenerative thermal oxidation, an emission purification method is preferably used to reduce hydrocarbon emissions, whereby natural gas must be added to the waste gas.

In regenerative afterburning, the treated waste gas transfers its heat to a regenerator, which in turn warms up the untreated waste gas, thus reducing the energy requirement for combustion.

Stakeholders
Groups or individuals who are significantly affected by the company's activities, products and/or services or who, in turn, can significantly influence the company's business.

Internal stakeholders:
- Employees
- Works Council
- Management

Examples of external stakeholders:
- Customers
- Suppliers
- Neighbours/Public
- Politicians/Authorities
- Competitors

Sustainability
The idea originated in forestry: in order to put sustainable action into practice, only so many trees should be cut down in a forest as it will be able to regrow in the foreseeable future. Today it designates a development which ensures that future generations are not worse off than those currently living. Sustainability is centred around ecological, economic and social aspects.

VOC
Volatile Organic Compounds

WBC-PR
Water Based Compounds

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Communication and Contact

Reports and publications notwithstanding, nothing beats a face-to-face conversation. We therefore welcome dialogue with staff, neighbours, authorities, professional and environmental associations, schools, journalists and politicians and other interest groups.

If you have any questions or would like to talk to us for any other reason, then we look forward to hearing from you!

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