260 YEARS OF RESPONSIBLE BREWING

SUSTAINABILITY REPORT
WARSTEINER BREWERY **2012**

The Executive Management of the Warsteiner Brewery: Catharina Cramer, Peter Himmelsbach (left), Stephan Fahrig (right)

Dear Reader,

In 2013, Warsteiner Brewery celebrated its 260th anniversary and is today managed in the 9th generation by Catharina Cramer. The success in passing on and continuously growing its business since 1753, from generation to generation, exemplifies the Cramer family's deep commitment to the entrepreneurial spirit of thinking and acting across generations. This traditional, yet very modern mindset, forms the foundation of our first sustainability report as presented here.

For many decades, our maxim "Tradition through Innovation" has brought us enormous success in the German brewing industry. The name of our managing partner, Albert Cramer, who passed away in the fall of 2012, is closely associated with this maxim. AC, as he was called by many employees based on his initials, was a visionary who wrote brew history in Germany. As the first German brewery owner, Albert Cramer launched national advertisement campaigns promoting his beer as early as in the 1970s. He succeeded in making his Warsteiner brand socially acceptable at the highest level.

Albert Cramer laid the foundation for the market segment of German premium beers, which the Warsteiner Brewery continued to further expand in the following decades by launching numerous new products and packaging, trend-setting communication campaigns as well as making major investments in its innovative production facilities and state-of-the-art brewing technologies. We remember him with gratitude and gladly honor his legacy by continuing his responsible values.

Today, Warsteiner is one of the leading and most successful breweries in Germany. In more than 60 countries on five continents, people enjoy our beer from Warstein. In Germany and abroad, we have continuously worked towards and achieved an excellent and trustworthy reputation. As a mid-tiered family enterprise from the Sauerland region, we are proud of this accomplishment. And this pride we share with all who worked with us towards this goal, in particular with our employees, some of whom are already working in our company in the third and fourth generation.

We do not take this kind of trust for granted. In the past years, our business world, in particular the food industry, has been marred by food scandals, which have destroyed the trust in many companies. As producers of natural food products, we assume a high responsibility for the well-being of people and nature. We would like our customers, the public and our partners to know that the enjoyment of our beers as well the cooperation with us is based on high quality standards.

Furthermore, we would like to express our gratitude for this trust and continue to strengthen this trust with our first sustainability report. By clearly documenting our understanding of our responsibility for people and nature as well the initiatives, processes and measures undertaken as part of this responsibility, we would like to provide you with a comprehensive foundation of information, so you may join us in the dialogue and we all can learn from one another.

With our sustainability report, we would like to be a model in the food and beverage industry, demonstrating that it is possible to successfully create a responsible business model, and at the same time achieve a significant market position. With our prominent market position, we hope to set impulses for other economic players to use the potentials in our society for responsible products as well as an intact environment. We believe that sustainable management can deliver a significant contribution to help solve the existential, global problems such as environmental pollution, climate change or population growth. And we would like to address our special challenges such as increasing market pressure and lack of skilled labor by presenting our market position in this report.

We have always understood sustainability not just as a fringe topic to be handled on the side, but as a governing idea which offers significant opportunities by linking conventionally disconnected ways of looking at problems. This perspective, which integrates economic, ecological and social questions, shows significant solutions and contributes to the sustainability of our society, our environment and, at the same time, of our company. Sustainability means for us to take ownership of our responsibility as a premium brewery in the mutually obliging relationships of our democratic social system, to make our contributions when dealing with each other: For an intact environment, for a socially just and wealth-oriented social system and, at the same time directly and existentially linked to us, for our economic success.

We carry out this sustainability report in accordance with the internationally leading reporting standards of the Global Reporting Initiative (GRI G3.1). The structure of this sustainability report is analogous to our value-added-cycle, which you will find on the next page. Additionally to this table of contents, you will find the "GRI-Index" on the last pages. Its structure will help you to quickly locate individual topics. With this first report according to the GRI reporting standard, we are entering, as far as we know, new territory in the German brewers' world.

We wish you an informative read with structured answers to your questions, and in addition, we would like to invite you to join us in a constructive dialogue: Do our perceptions, procedures and measures meet your expectations? What should we improve? For these and possibly other questions you may have, please don't hesitate to contact Mr. Stefan Leppin, Head of Corporate Communications.

Catharina Cramer
Managing Partner

Stephan Fahrig
CFO (Finance & Administration)

Peter Himmelsbach
CTO (Technology & Production)

TABLE OF CONTENTS

I

SUSTAINABILITY MANAGEMENT

Introduction to the Sustainability of the Warsteiner Brewery 09

About this Report 06

I.1 _ The Warsteiner Brewery 15
I.1.1 _ Our Sustainability Strategy 16

I.2 _ Our Responsibility in Our Daily Work 19
I.2.1 _ Stakeholder Dialogue ... 20
I.2.2 _ Prioritizing our Sustainability Topics 22
I.2.3 _ Management System ... 24
I.2.4 _ Leadership and Decision Concept 28
I.2.5 _ Sustainability Goals 30
I.2.6 _ Awards 32

II

MARKET STRATEGY

The Warsteiner Brewery and its Market 35

II.1 _ 260 Years of Family-operated Economic Power for Purest Beer 37
II.2 _ A Legacy of Centuries-old Commercial Trust 40
II.3 _ The Warsteiner Waldpark Brewery with its Proprietary Water Sources 45

III

SUPPLIER MANAGEMENT

Our Procurement: The First Step in a Sustainable Brewing Process 49

III.1 _ Sustainable Supplier Management 55
III.2 _ Sustainable Procurement 59

IV

PRODUCTION

Our Understanding of Sustainability Throughout the Entire Brewing Process 63

IV.1 _ The Brewing Process 65
IV.1.1 _ Brew House 65
IV.1.2 _ Cold Storage 71
IV.1.3 _ Fermentation 73
IV.1.4 _ Cold Maturation, Storage 73
IV.1.5 _ Filtration 74
IV.1.6 _ Bottling 75
IV.1.7 _ Labeling, Final Quality Control, Supplying 76

IV.2 _ Natural Resources 78
IV.2.1 _ Water 86
IV.2.2 _ Waste 91
IV.2.3 _ Energy 95
IV.2.4 _ Emissions 100

V

PRODUCT RESPONSIBILITY

The Result of the Responsible Brewing Process: Our Premium Beverages 103

V.1 _ Product Responsibility for the Well-being of People and Nature 105

VI

TRANSPORT & LOGISTICS

Smart Logistics to Benefit Ecological, Social and Economic Contributions 113

VII

RECYCLING & RE-USE

The Cycle of Our Brewing Process 125

VIII

STAFF

The Team of the Warsteiner Brewery ... 133

VIII.1 _ Human Resource Management 136
VIII.2 _ Employee Structure 138
VIII.3 _ Work-Life-Balance 141
VIII.4 _ Renumeration 142
VIII.5 _ Training and Professional Development ... 144
VIII.6 _ Our Traditional Team Work 145
VIII.7 _ Health and Work Safety 147
VIII.8 _ Prevention of Corruption 153

IX

SOCIETY

The Warsteiner Brewery as a Member of Society 155

Sustainability Index 160
GRI Certification 162
Legal Notice 163

About this Report

Scope of the Report

In this first edition of our sustainability report, we cover the economic, ecological and social effects of our company's activities for the time period from 2008 through 2012. The individual years of the reporting period correspond to the fiscal and calendar years, from January 1 to December 31. You can find this report on the Internet under http://warsteiner.de/ sustainability, together with regular updates and additional information as well as a search function and links to the table of contents and the GRI index.

Considering the complexity associated with creating such a sustainability report, we decided for this first edition to initially limit the report in accordance with the guidelines of the Global Reporting Initiative to the Warsteiner Brauerei Haus Cramer KG and its 801 employees at the Warstein location in the Sauerland region. The report does not include the national or international subsidiaries: any subsequent presentation only serves as supplementary information. Middle- and long-term, however, we plan to expand our sustainability report with contents from our subsidiaries. The Warsteiner Brewery does not maintain joint ventures, holdings in supplier companies or proprietary production sites abroad. Due to lack of potential influence, any pre-suppliers are not included in the reporting. For detailed information regarding our company type, please see Chapter II.2.

The national sales business of the Warsteiner Brewery is centrally managed at its headquarters in Warstein. The international export business is managed by our subsidiary Warsteiner International KG and our own distribution companies, respectively. We have not engaged in significant outsourcing of core tasks of our beverage business to third-party companies or other service providers during the reporting period.

We plan to continuously report and publish the subsequent sustainability report in the next two years. We will continuously publish relevant interim and progress reports on http://warsteiner.de/ nachhaltigkeit and through our corporate communication department.

Data Collection and Calculation Basis

The data was collected according to GRI indicator protocols. The primary basis for the economic data came from the analysis of the corporate-wide installed SAP/ECC 6.0 system. Any data regarding the HR section was also collected from information defined in SAP. The data in the environmental section is collected from individual measurements (water and electricity meters, keeping consumption records and audits) as well as from calculations based on accepted standards, which are explained at the appropriate places throughout this report.

GRI Level B

This sustainability report was developed according to the internationally accepted Guidelines for Sustainability Reporting G3.1 of the Global Reporting Initiative (GRI). The Global Reporting Initiative has externally verified our report and awarded it the level B. This classification shows us that we are fulfilling important content reporting criteria. Statement of GRI Application Level Check: see page 162.

Disclaimer

We exercised the utmost care during the collection of data contained in this report. However, we cannot completely exclude possible mistakes. As far as statements about future developments are concerned, they are based on information and prognosis available at the time of publication. Despite very careful preparation, some multi-faceted, influencing parameters that could not be anticipated at time of publication, could lead to deviations. The contents of the report was checked by employees who are experts in the subject matter. An examination by external auditors did not occur. Where the data quality does not yet entirely meet the requirements of the GRI indicator protocols, we are continuously working towards ensuring the data quality in the future.

Note

In this report, the term staff or employee applies to both female and male employees of the Warsteiner Brauerei Haus Cramer KG. Similarly, the term customer is meant gender-neutral to avoid linguistic awkwardness.

Editorial deadline for this report

April 2014

Introduction to the Sustainability of the Warsteiner Brewery

“We are aware that we are just a little wheel within a complex global structure, whose future depends on the action of all who participate in the system. Therefore, it is important to us to make our own contributions within our possibilities for a sustainable development. At the same time, we also would like to be a model with our sustainability policy and provide motivation for others to follow this thought that our own pro-active actions within the sum of the activities of many other companies, organizations and individuals can have a significant impact.”

Stefan Leppin, Head of Corporate Communications and Agent for Sustainability at the Warsteiner Brewery

Our Corporate Data

The Warsteiner Brewery was founded in 1753, and today is one of the largest, privately owned breweries in Germany. Our flagship is the Warsteiner Premium Verum brand, one of Germany's leading premium pilsener brands. Warsteiner is equally successful abroad: The brand is available in more than 60 countries on five continents. The Warsteiner Brewery has its headquarters in the Westphalian Sauerland region in Germany and is family-owned. Today, the company is managed in the ninth generation by Catharina Cramer.

We see the significant success of our company particularly in our strong innovative premium brands of the highest quality and purity, which we are brewing by using top quality ingredients and technologies, in accordance with naturally sustainable methods.

The strategic, continuous expansion of our brands – today with an increased focus on the target group of young adults, as well as the expansion of the international business and an even more pronounced positioning regarding nature and quality – we always conceptualize in line with our stakeholder dialogue. Stakeholders are for us all persons and groups who can affect the achievement of our corporate goals or who will be affected by them.

This corporate strategy is inseparably linked with our traditional understanding of our responsibility regarding our sustainability strategy.

You can find a detailed presentation and discussion of our economic approaches and performances in Chapter 2.

Company

Warsteiner Brauerei Haus Cramer KG

Headquarter

Domring 4 – 10, 59581 Warstein

Contact

Tel. +49 2902 - 88 1210, info@warsteiner.com

Production Facility

Waldpark Brewery, 59581 Warstein

Number of Employees

801 employees (Status December 31, 2012)

Executive Management

Catharina Cramer
Managing Partner

Stephan Fahrig
CFO (Finance & Administration)

Peter Himmelsbach
CTO (Technology & Production)

Responsible Departments/Main Departments

DISTRIBUTION SALES: Nils Handke

DISTRIBUTION GASTRONOMY: Lothar Menge

MARKETING: Jordi Queralt

TECHNOLOGY & PRODUCTION: Ulrich Brendel

CONTROLLING: Rainer Esser

INTERNAL SALES: Michael Göckede

FINANCE: Alfons Rediker

ACCOUNTING: Hubertus Bräutigam

IT: Rainer Gritto

QUALITY MANAGEMENT: Frank Homann

PURCHASING: Andreas Wiepck

LOGISTICS: Uwe Salvey

TAXES: Silvia von Oepen

REVISION: Wolfgang Pieper

LEGAL: Achim Deisenroth

WARSTEINER INTERNATIONAL: Martin Hötzel

HUMAN RESOURCES: Stefan Bastert

CORPORATE COMMUNICATIONS: Stefan Leppin

Significant Subsidiaries of the Warsteiner Brauerei Haus Cramer KG

HERFORDER BRAUEREI GMBH & CO. KG (Herford)
PADERBORNER BRAUEREI HAUS CRAMER GMBH & CO. KG (Paderborn)
DÜSSELDORFER PRIVATBRAUEREI FRANKENHEIM GMBH & CO. KG (Düsseldorf)
KÖNIG LUDWIG GMBH & CO. KG SCHLOSSBRAUEREI KALTENBERG (Fürstenfeldbruck)
WARSTEINER ITALIA SRL (San Giovanni Lupatoto, Italy)
WARSTEINER NIEDERLANDE/BENELUX B.V. (Nijmegen, The Netherlands)
WARSTEINER IMPORTERS AGENCY, INC. (Cincinnati, Ohio, USA)

The Warsteiner Brauerei Haus Cramer KG markets its production globally in more than 60 countries on all five continents.

The Premium Brand Products of the Warsteiner Brewery

"What connects us, is our love of beer!" With this quotation about her staff, our managing partner Catharina Cramer once summarized in an interview why a great brand is able to bond so many people together and motivate them to work with passion towards a common goal. The brand is our **Warsteiner Premium Verum**, our flagship in the beverage portfolio: one of the first nationally distributed pilsener beers in Germany which today is one of the largest and most popular beer brands in the country. About 40 years ago with Warsteiner Premium Verum, we put the foundation in place for the German premium beer segment.

Essential for the rise and great success of the Warsteiner brand was especially the recipe of the beer, which was only once refined in the mid-1970s and which we have faithfully kept to this day. Since then, the typical Westphalian, mild hoppy taste profile is characteristic for Warsteiner Premium Verum. The same is true for its particularly light, golden color. To achieve this color during the brewing process, we use especially suitable, soft brew water which we source from our own proprietary spring in the adjacent nature park Arnsberger Forest (see Chapter IV,2,1).

Based on this early, fast growth and its long-standing business successes, the Warsteiner Brewery started already in the 1980s to sell its premium beer from the Sauerland region abroad. Thanks to the early expansion of our export business, Warsteiner is today enjoyed in more than 60 countries on all five continents.

Until the early 1990s, Warsteiner Premium Verum was marketed as a monobrand. During this time, as a result of the increasing awareness about health, fitness and sport in society, new customer expectations developed for our product portfolio. With regards to these changes, we gradually introduced new beer types under the umbrella brand Warsteiner.

The beginning was in 1991 with the introduction of a non-alcoholic variation of Warsteiner Premium Verum as well as Warsteiner Light with a 50 % reduced alcohol content. The recipe of the non-alcoholic beer was in the subsequent years optimized twice, whereby the change in 2011 was the most significant one. Since then, **Warsteiner non-alcoholic** – preferred by many consumers, particularly athletes – is brewed in such a way that it contains isotonic properties which assure a quick fluid absorption by the body.

In the 1990s, the non-alcoholic Warsteiner was followed by **beer mix beverages** with flavors including cola and lemon, which are particularly appreciated by young adult target groups. Today, we sell these beer mix beverages primarily in gastronomies catering to a young, hip clientel and in smaller retail packaging. Since 2007, the Warsteiner Brewery also serves the most important market segment among the beer mix beverages, the classic Radler, which is a beer mixed with lemonade in the shandy-style, also called Alster in northern Germany. In this segment, we again proved our innovation capacity in early 2010 by using real lemon juice from concentrate in the production of **Warsteiner Radler 100 % Natural** as the first brewery in Germany. The use of **real fruit juice** for the production of lemonade for our Radler has caused an uptick in production costs, but has been appreciated by many new customers. More and more consumers prefer 100 % natural products compared to those that are produced with regular methods by using citric acid in the production of Radler.

Our success with Warsteiner Radler Lemon is evident in high annual growth rates since the introduction of the product. To follow the success, we established a year later with **Warsteiner Radler Grapefruit 100 % Natural** a second 100 % natural flavor option in this segment. Since early 2012, we offer a non-alcoholic **Warsteiner Radler Lemon 100 % Natural**, which is also produced with real fruit juice concentrate and completely free of artificial aroma flavoring (see Chapter V.1).

I.1 The Warsteiner Brewery – Part of Our Society and Environment

Sustainable Development Calls for New Thought Processes and Innovative Solutions

As a producer of natural food products, we are in an existential dependency to nature. Water is our most important food without which the ingredients for our beers could not grow. In addition, the production of beer with machines and in production facilities is not feasible without nature; after all the components come from nature. At the same time, any trucks, cars, and forklifts, which operate with fossil fuels, are causes for the continued climate change.

We, in our public role as a brewery company, want to act ecologically. And of course, we also want to remain socially aware in this role in the dialogue with society. We refer here to ensuring our business successes by fulfilling the expectations of our stakeholders and acting as one would expect from us as a quality producer with high standards.

With our work and sustainability communication, we hope to increase the public awareness about the vital intrinsic value of nature. Of course, the reason for our sustainability performances is also the positioning of our company with regards to the environment. We carry out our sustainability contributions with full awareness and determination for the benefit of nature and society, and perceive our efforts as a foundation for our business success.

Furthermore, we hope that this kind of awareness, for the lasting value of nature as well as the common good, continues to grow in our society.

“Today, quality is no longer only what you can taste or analyze. In the future, one will consider also that which is only visible by analyzing the entire production process with regard to its impact on the environment and society. The efficient use of energy required for the brewing process plays a central role, similarly to the optimal use of the natural resources. For decades, the Warsteiner Brewery has been successfully active in this realm and provides a good example for others with its understanding of quality. With this sustainability report, the engagement of the company in a sustainable and responsible operation is now clearly visible to a broader public. The quality and volume of information as well as the preparation of data is exemplary. This guarantees transparency and understanding for the reader.”

Prof. Dr.-Ing. Jan Schneider, Head of Beverage Technology, Institute for Food Technology, North-Rhine-Westphalia

I.1.1 Our Sustainability Strategy

Since the Very Beginning, the Thought of Social Responsibility Is Firmly Anchored in Our Company

Before the Cramer family turned to the art of beer brewing, its members were active in agriculture and took care that their land, which meant fields were planted in a sustainable fashion to secure their long-lasting existence.

Since 1753, the Cramer family has successfully developed its enterprise step-by-step and was able to pass it on to their children in an economically solid way, preferably in improved condition when compared to the previous generation. In doing so, the Cramer family was always ready to reinvest large portions of the beer business in the company, to durably secure and expand its capital and innovation capacity in the brewery. This forward-looking attitude of the family, for whom today the managing partner Catharina Cramer stands in the ninth generation, forms the foundation for the sustainability understanding of the Warsteiner Brewery – keeping with the principal of responsibility for a joint benefit of stakeholders and brewery.

It is this understanding of our durable responsibility, that commits us to our stakeholders. Without our employees, our joint successes and even our brewery would not exist. We are equally committed to our customers, in particular for their trust in our pure brewing art. Furthermore, we are committed to the cooperation with our suppliers and business partners and appreciative of our products and successes which are after all a testimony to our joint efforts. In addition, we are responsible for our reputation in society and the broader public. With regard to all these relationships, we are working daily to maintain and grow this trust. This is crucial for us as a brand name company.

In light of our reciprocal relationship with the environment, we feel committed to contribute towards its preservation. This logical and simple understanding is for us both tradition as well as the foundation for all our activities which we share with you in this sustainability report.

We gathered the essential core values of our responsibility in our central sustainability guidelines. For the reporting period, these sustainability guidelines poignantly document what we stand for, which values motivate us, and consequently, which strategic goals we pursue. These basic values provide the guidance for our goals and management systems as well as all our activities.

For many years, we have been fulfilling a model function in society, by continuously reducing our relative usage of energy, raw ingredients and material through investments in modern technology and facilities, and thus we contribute to an important reduction of our emissions as well as helping in the conservation of the environment. With our conduct and standards, we would like to offer other companies encouragement to develop similar contributions for a sustainable handling of nature and people. With this approach, we would also like to strengthen our sustainable company positioning within society.

Another top priority is our responsibility towards our customers who are enjoying all products. We consistently work towards the highest degree of trust in the quality of all products. Our customers can be reassured that they are consuming a high quality, flawless and natural beverage. Throughout our entire brewing process, we ensure security, highest quality and purity through our traditional as well as high-tech procedures. A major part of our strategic orientation is the positive working conditions of our employees. Only together will we achieve the continuous expansion of our market position.

In the following, we will share with you how we are implementing our sustainability guidelines as part of our actions, and how we have developed them in an on-going exchange and discourse with the expectations of our stakeholders. We do not consider these guidelines to be an absolute, instead we continuously verify them to be able to adjust our position according to changing social values.

Sustainability Guidelines of the Warsteiner Brewery

As a mid-size family-owned company with a long tradition and international approach, the Warsteiner Brewery pursues the goal to only produce and distribute beers of the highest quality. With this premium strategy, we want to ensure profitable growth together as a team and work toward a sustainable, positive development of our company as well as society and the environment at the same time.

ENVIRONMENT

Our entrepreneurial conduct has the responsibility to leave an intact environment to the generations that come after us. For this reason, we are committed to handle our resources and materials in the most economic fashion, and to continuously reduce our energy consumption as well as any resulting pollutant emissions.

SOCIETY

We assume our social responsibility by supporting projects and initiatives in the cultural and sports arena, in education and culture as well as in the preservation of the environment and local customs. Our entrepreneurial conduct shall not only serve us, but also benefit the common good.

Sustainability of the Warsteiner Brewery

EMPLOYEES

With our initiatives for personnel development, work protection as well as the promotion of good health, we pursue the goal to preserve and foster the motivation, contentment and productivity of our employees. To be successful together, we work as a team and address each other with respect and mutual appreciation.

MARKET

Our products and services follow a clear premium strategy which pursues as its goal quality leadership in all areas of our entrepreneurial conduct. As an active player in the market, we try to recognize the demands of our customers at an early stage and develop innovations for the market without losing sight of our traditional values and expertise stemming from nine generations of family ownership.

Legal Bases and Integrity of Values

Adherence by the laws of the countries, in which we are socially active, is a matter of course. For the production in Germany, however, different legal frameworks and safety regulations exist compared to many other countries and continents in which we are active as a business. We are convinced that certain ethical standards must apply in all countries. Therefore, we developed our own standards and guidelines which bindingly apply to our employees and our suppliers worldwide and regulate any conflict of interests.

By defining here what sustainability means for us, we create an orientation framework for all employees up to the executive management, and underscore the importance of sustainability in all business processes. Beginning with our sustainability guidelines, our "Ten Principles of the Warsteiner Brewery" (see chapter VIII) and in accordance with international sustainability standards, in particular the International Labour Organization, the United Nation (UN Global Compact, human rights declaration and anti-corruption conventions) and the OECD, we developed our Code of Conduct for suppliers, which also is binding for us. Hereby, we support a corporate culture in our company as well as with our suppliers, that according to our understanding of integrity, incorporates our ethical standards beyond legal requirements and is exemplary in the industry for its support of developing fair working conditions, for instance, in emerging markets (see Chapter III).

I.2 Our Responsibility in Our Daily Work

The Highest Premise for All Our Activities Are Our Sustainability Guidelines

Our sustainability guidelines align themselves equally with the expectations of our stakeholders and our own values. Therefore, an open and constructive dialogue with our stakeholders takes on a key importance.

Already in the 1990s, we established goal systems according to our traditional basic values, such as supporting team-oriented collaboration, a conscientious and careful use of our resources, the preservation of nature, consistent customer orientation and our premium standard to achieve top performances in all business segments. According to this successful tradition, the Warsteiner Brewery started the "Warsteiner Initiative für Region, Klima, Umwelt, Nachhaltigkeit und Ganzheitlichkeit" (Warsteiner Initiative for Region, Climate, Environment, Sustainability and Comprehensiveness), in short: called "WIRKUNG" ("IMPACT"). The initial reason was the opening of a proprietary rail switch with container terminal, which today still represents in the German brew industry a unique transfer of truck traffic onto the railways, and is particularly effective in reducing CO_2 emissions (see Chapter VI). The initiative WIRKUNG (IMPACT) resulted in establishing a structure for many projects regarding the reduction of energy, material and resources, while at the same time was instrumental in increasing efficiency, and today, by consequently developing it further, provides the foundation for our sustainability management.

The basic requirement in our understanding of responsibility is to provide guidance for the economic, ecological, and social effects of our business activity. We want to minimize negative effects, while stabilizing and preferably expanding the positive effects for people and nature. It is equally important to prevent sustainability risks and to specifically utilize sustainability opportunities. For Warsteiner Brewery, these aspects are found particularly in the area of top-quality premium brand beers that are produced in a nature preserving and socially responsible fashion. This includes our groundbreaking work of supporting awareness for the existential significance of individual responsibility and sustainability in society as well as in other companies.

Initially, a particular challenge exists in first identifying the relevant sustainability subjects to be subsequently able to better monitor our actions in these areas. Our management systems must master this challenge by ensuring accountability, communication flows, and reporting processes across all levels in our company.

In the following, we share with you the procedures in our sustainability management.

Our Business Activities Affect the Interests of Many People, Organizations, Other Companies As Well As Nature

We can only successfully manage our company in the long run, if we use the dialogue with our stakeholders to exchange experiences, to openly discuss controversial subjects, and to find solutions together. The stakeholder dialogue is essential for the management of our corporate responsibility. We regularly define our important stakeholder groups in our Sustainability Council which we discuss in Chapter I.2.4. The criterion for the identification and weighting of stakeholders is the question, if and how much a group is affected by the activities of our company or, in turn, exercises influence over our business activity. Our stakeholders decide the ups and downs of our company in society, the acceptance and non-acceptance, and, ultimately, our business success. In addition to the legal regulations, we also strongly adhere to this symbiotic, social concept of responsibility.

We are in regular, intensive dialogue with our significant stakeholders, and consider their concerns when establishing and continuously verifying our sustainability guidelines, goals and strategies, which are integrated and inseparably linked with our corporate strategy:

Customers

End Customers/Consumers:
Direct surveys, market research, our public relations work and advertisement, Internet forums and social networks (Facebook, blogs), personally direct, via email, letter and phone, via our complaints management and through brewery tours and public company celebrations.

Gastronomy, Wholesale and Retail:
Via the same forms of dialog; plus, our intensive contact is even more enhanced through daily exchanges as part of our cooperation and through personal customer conversations (for more detailed information, see also Chapter II.2 and IX).

Employees and Unions

Regular talks by upper management with the workers' council regular all-hands meetings and exchanges with unions, regular meetings between executive management and department heads, employees and family festivities, innovation management, annual employee meetings and review of objectives, and particularly our daily dialogue with each other (see Chapter VIII).

Suppliers and Business Partners

Long-term cooperation agreements, close collaboration, joint product developments, regular controls and audits of suppliers as well as discussions regarding the fulfillment of our sustainability requirements (see Chapter III).

Representatives of the Region, Communities and Our Neighbors

Representatives of our company work together with various committees, associations and initiatives, such as the chambers of commerce, support organizations of universities and cultural institutions, which address the positive development of the town of Warstein and our region in the areas of economy, tourism, culture and education. Lastly, a regular exchange between the executive management of our brewery and representatives of the town of Warstein takes place to discuss these issues.

Political Decision Makers and Non-Governmental Organizations (NGOs)

Our communication with political decision-makers follows the prevailing legal regulations and standards for responsible lobbying. It is our highest maxim to foster the interest of our company in an ethically proper way and by doing so observing the interests of our stakeholders. Our contacts to the federal government take place through our special interest group, the German Brewer Association (Deutscher Brauer-Bund e.V.). Hereby, we maintain neutrality when dealing with political parties and special interest groups. Non-governmental organizations in the areas of environment and food safety provide us with a concentrated, representative collection of public expectations which are of great relevance to us. Based on this sustainability report, which provides transparency and motivates us to continuously improve, we would like to expand this exchange. With its publication, we define sustainability goals for ourselves and share what we have achieved up to this point (see Chapter IX).

Company-external Experts, Associations, Science and Expert Work Groups

In our industry, we are trying to maintain and promote the quality of the product beer as a cultural good at a high level through our memberships in the Association of Rhenish-Westphalian Breweries (Verband Rheinisch-Westfälischer Brauereien e.V.) and the German Brewer Association (Deutschen Brauer-Bund e.V.).

Representatives of our brewery work at the association level in committees for quality assurance and technology as well as press, media and consumers. In addition, our CTO, Peter Himmelsbach, sits on the steering committee of the German Brewer Association (Deutscher Brauer-Bund e.V.). We ensure the ethical correctness in our advertisements with our membership in the Central Council of the German Advertisement Industry (Zentralrat der deutschen Werbewirtschaft). Furthermore, we successfully participate in numerous competitions, which provide us with additional insight into the expectations of society. (see Chapter V).

With our membership in the German Brewer Association, we are directly and financially involved in the Committee for Promoting Science of the German Brewery Industry (Wissenschaftsförderung der Deutschen Brauwirtschaft e.V. [WiFö]). This science promotion committee (WiFö) supports research projects requested by renowned universities and institutes. We actively participate in this process. Mr. Homann, head of our quality assurance department and management agent, belongs to the advisory committee of WiFö and is also a member of the so-called Four-Expert-Panel which assesses the grant requests. WiFö is also instrumental in the proportional support of projects that are submitted by the Research Cycle of the Food Industry (Forschungskreis der Ernährungsindustrie e.V. [FEI]) and the Federation of Industrial Cooperative Research Associations (Arbeitsgemeinschaft industrieller Forschungsvereinigungen "Otto von Guericke" e.V. [AiF]).

Furthermore, the Warsteiner Brewery is a member of the Research and Teaching Institute for Brewing in Berlin (Versuchs- und Lehranstalt für Brauerei in Berlin e.V. [VLB]), an internationally leading institution that addresses questions in the areas of beverage production and filling, and offers consulting services in the areas of engineering, technology and analytics. The VLB is closely linked with the Technical University of Berlin (Technische Universität Berlin), so that training, continuous education and studies with a focus on natural science are offered for the brewing sector. Due to the membership in the VLB, we are able to send our employees to the technical and scientific committees, in which a scientific exchange of know-how takes place at a very high level. The work of these different committees includes the comprehensive spectrum of management approaches, which are significant for a food producing company, beginning with the raw ingredients and their quality to technical and technological questions, quality assurance, quality management and analytics, resource management, environmental management, worker safety and logistics. We actively participate in these committees and perceive them as a very important contribution to the global sustainability approach, which serves the well-being of all and therefore the preservation of our environment for generations to come.

We maintain good relations to renowned universities and use these connections extensively in the interest of both sides, e.g. for training by offering students the opportunity to conduct their work and their tasks (internships, diploma theses, bachelor and master theses, dissertations), which are gladly accepted. Most of this supervised work takes place in the natural science area (chemistry and biochemistry, microbiology, molecular biology, biotechnology and physics as well as the areas of sensor technology and statistical evaluation procedures). These efforts, carried out in this context and supervised by the Warsteiner Brewery, also help us, among other things, to intensively investigate some very specific questions and to find scientifically proven answers. If possible, the holistic approach to these efforts almost always includes considerations regarding resource conservation. As a result of this collaboration, these insights regularly influence our processes if they lead to improvements along our value-added-chain in accordance with our sustainability concepts:

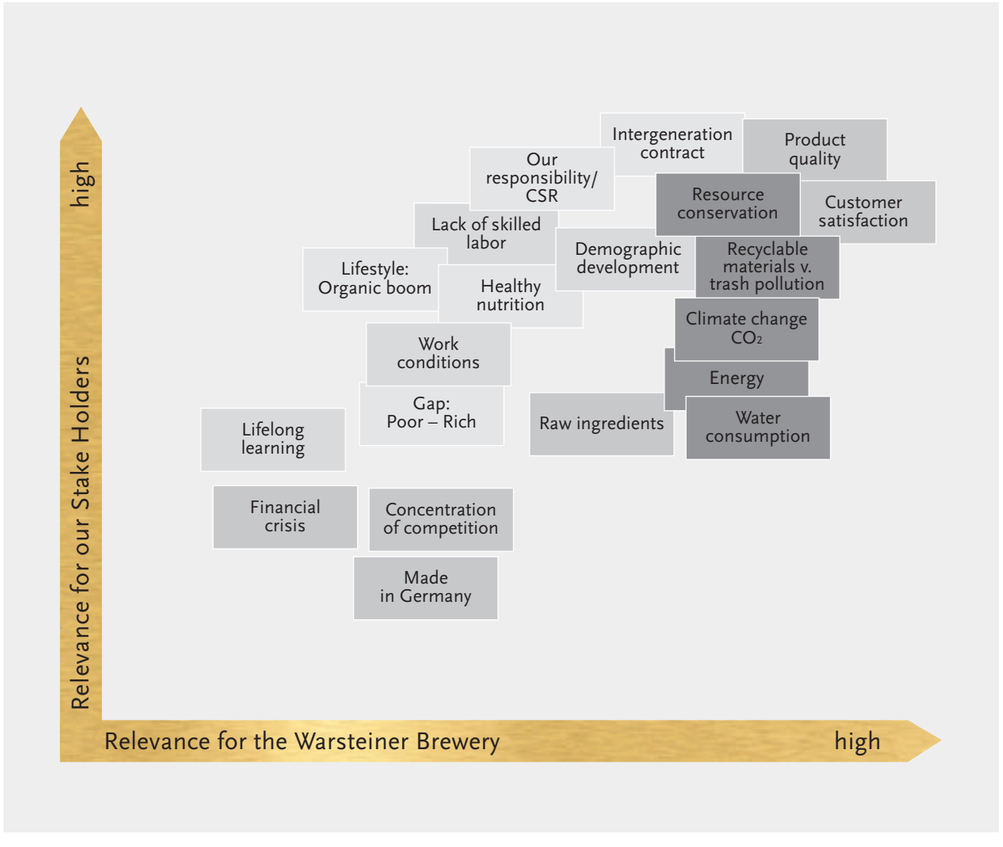
The stakeholder dialogues are conducted by the different expert areas and their contacts, and are primarily led by the respective members of the sustainability council (see also Chapter I.2.4). The appropriate corporate business units use the dialogue for the exchange of information and to include the data in the processing of concrete sustainability questions. Our corporate communications department leads the stakeholder dialogue in conjunction with the relevant expert areas by gathering and coordinating the stakeholder expectations and topics, centrally documenting them and preparing them for evaluation, analysis and decisions regarding integration in our sustainability management by our Sustainability Council (see Chapter I.2.5).

It is our explicit wish to seek constructive dialogue, particularly with interest groups that are critical. Through these exchanges, we create a greater degree of transparency for our stakeholders and can use the results for a continuous improvement of our sustainability efforts.

What Expectations Are Essential for Our Stakeholders and the Warsteiner Brewery to Be Sustainably Successful?

Already early on, for the identification of expectations of our stakeholders and our sustainability topics, respectively, we used the principles of the GRI guidelines to define the contents of this report (essentialness, completeness, sustainability context and integration of stakeholders). We perceive an expectation/topic as essential, if it is important from both the perspective of our stakeholders as well as from our perspective as the Warsteiner Brewery. In an iterative workshop process with our top level sustainability committee, the Sustainability Council, we have analyzed, discussed, assessed, and prioritized the essential topics in a so-called relevance analysis based on the findings from our stakeholder dialogue.

Relevance Analysis of the Warsteiner Brewery (2012)



Color-coded topic assignment according to our sustainability topic structure: Market Environment Employees Society

Currently, the result of the central relevance analysis represents for us the most essential points of action. They influence our corporate action to a large degree, whereby the topics in the upper right hand corner receive the highest priority. With this relevance analysis, we have prioritized our most important expectations and topics. It provides the foundation for the development of stipulations for all of our sustainability activities, including our central sustainability guidelines as they are presented here (see Page 18).

In addition to these more defined, central topics, we address in the complex field of sustainability many other topics whose treatment you will also find with chapter designations below marked in bold. To achieve as much completeness concerning the sustainability topics/expectations of our stakeholders as possible, we took these topics from the report standard of the GRI G3.1:

Economy

> Economic performance: **II.2**
> Market presence: **II.2**
> Indirect economic impacts: **II.2**

Product responsibility

> Customer health and safety: **V**
> Labeling of products and services: **V**
> Advertisement: **V**
> Protection of customer data: **V**
> Adherence to legal regulations: **in every chapter/value-added process step**

Ecology

> Materials: **IV.2, VII**
> Energy: **IV.2**
> Water: **IV.2, II.3**
> Biodiversity: **III, II.3**
> Emissions, waste water and waste: **IV.2, VII**
> Products and services: **II, V, VII**
> Adherence to legal regulations: **in every chapter/value-added process step**
> Transport: **VI**
> Total: **I.1, III, IV, V, VI, VII**

Key issues food industry

> Protection of natural resources: **I, II.3, III, IV**
> Minimizing Toxicity: **III**
> Fair Trade: **III**
> Fair wages/compensation: **III, VIII**
> Batch traceability: **V.1**
> Genetically modified organisms: **III**
> Animal health and well-being: **for us as brewery not relevant**
> Biofuels: **VI, IV.2.3**

Society

Working practices & decent employment

> Employment: **III, VIII**
> Employee-Employer Relationship: **III, VIII**
> Work safety: **III, VIII**
> Training and continuous education: **III, VIII**
> Diversity and equal opportunity: **III, VIII**

Human rights

> Investment and procurement practices: **III, VIII**
> Equal treatment: **III, VIII**
> Freedom of association and right to collective bargaining : **III, VIII**
> Elimination of child labor: **III, VIII**
> Elimination of forced and compulsory labor: **III, VIII**
> Complaints proceedings: **III, V, VIII**
> Safety practices: **III, V, VIII**
> Rights of indigenous people: **Not applicable**

Society

> Community: **I, IX**
> Corruption: **VIII, IX**
> Politics: **I, IX**
> Anti-competitive behavior: **II**
> Adherence to laws: **in every chapter/value-added process step**
> Healthy and affordable food: **I, II, III, IV, V**

Sustainability topics taking the leading reporting standard GRI G3.1 into account, **the contents references to the chapters of this sustainability report are marked in bold.**

This vital, continuous foundation work – focusing on the identification, analysis and prioritization of the various sustainability topics in order to identify our sustainability guidelines as well as any subsequent strategies, processes and measures in our daily work – often turns out to be a highly complex task. We are trying to resolve this to the best of our abilities in the relevant committees (see Chapter I.2.4). This complexity places high demands on our employees. We implement the basic values of our sustainability guidelines through concrete management systems, guidelines and recommendations with consideration of international standards. Their purpose is to give each employee practically applicable and substantively coherent advice regarding our routine business situations. In the following, we will present this networked sustainability management system designed for the secure implementation of our sustainability guidelines.

Our Networked Management System Facilitates the Compliance with Our Sustainability Guidelines

All regulatory guidelines of the Warsteiner Brewery are combined in a "Management Handbook" accessible in the central Intranet by all employees. We continuously develop and fine-tune this process in accordance with new legal regulations as well as with consideration of our stakeholders' expectations.

The general process with regards to the individual elements of our network management system (see page 26) is identical, but the focus on different contents affecting the relevant norm may vary:

Sustainability Guidelines

Our sustainability guidelines are the guiding element in all processes and measures which we apply as part of our continuous improvement processes across all levels of our value added chain. In this context, especially quality and safety, preservation of the environment, positive work conditions, our sustainable corporate positioning in society as well as the growth of our market position have the highest priorities.

PDCA Cycle

In a basic process scheme relevant for the entire management system, which applies for all system elements with their different approaches and substantive emphases, we continually and comprehensively test our sustainability performances to ensure continuous improvement. Hereby, we monitor our processes and measures according to our sustainability objectives while constantly evaluating our stakeholders' expectations with regard to their efficiency and optimization potential.

Food Safety Management: DIN EN ISO 22000:2005 and FSSC 22000:2010

Our customers and, of course, the governing bodies expect from us safe food with regard to ingredients, declaration, packaging and physical integrity, so that our customers do not incur any damage or health risks during the intended use of our products.

The focus of our extensive analyses concerning the safety of all products is on prevention and to notice as soon as possible potential irregularities or to prevent them in the first place by appropriate measures. To achieve this, the Warsteiner Brewery uses two certified, standardized food safety management systems: DIN EN ISO 22000:2005 (since 2006) and FSSC 22000:2010 (since 2011). The goals are:

> Conformity with legal requirements (including marketability of our products)
> Adherence to customer demands regarding food safety
> Consideration of our company's external and internal communications
> Implementation of constant optimization of requirements regarding food safety

Our HACCP concept (Hazard Analysis Critical Control Point) which also preventively strengthens the safety of food and consumers, as well as a very comprehensive and preventive hygiene management are linked to our food safety management systems. For additional information regarding the implementation of these systems, see Chapter V.1.

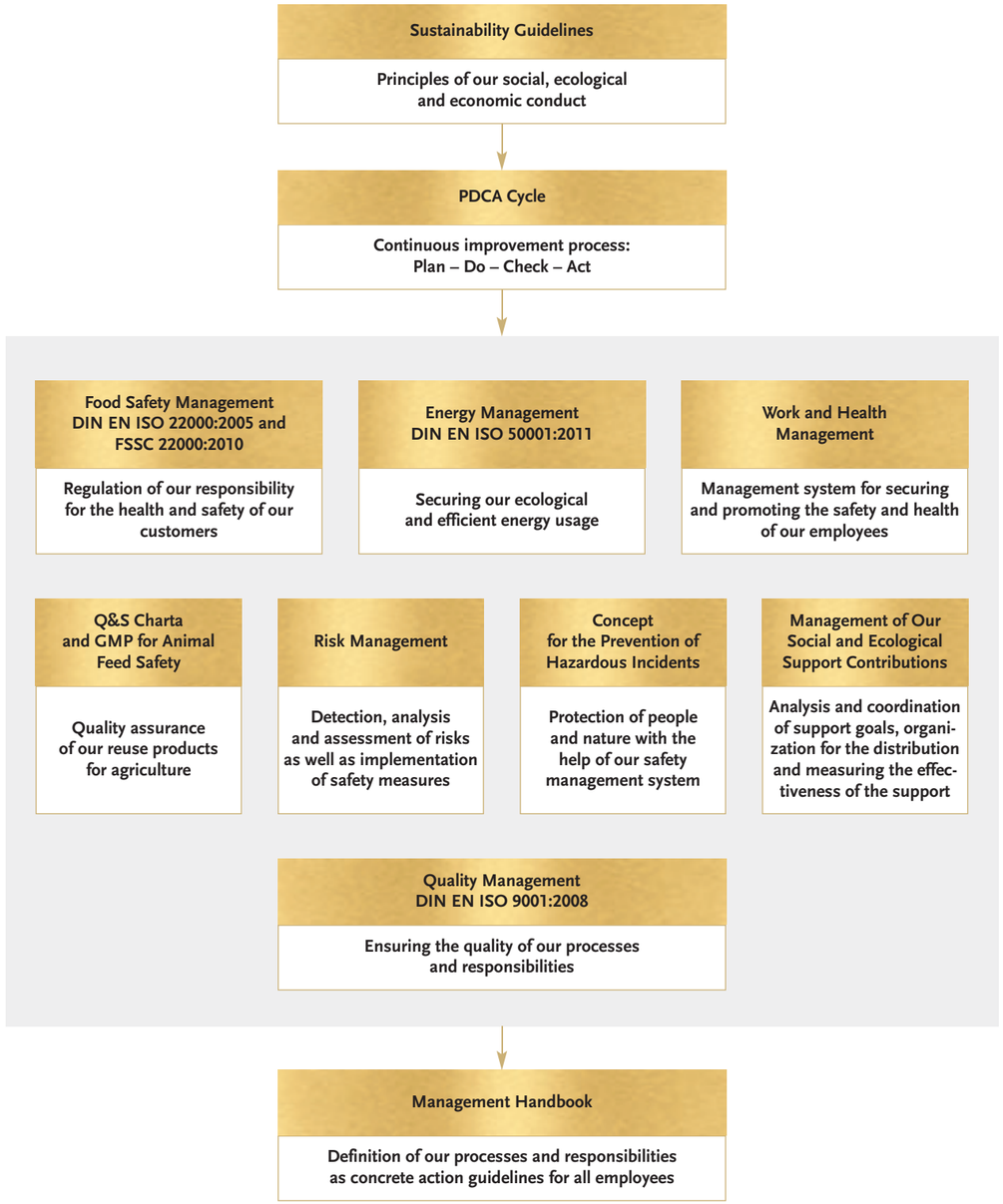
Energy Management: DIN EN ISO 50001:2011

In 2012, we received the certification according to DIN EN ISO 50001:2011 for our energy management system as the first brewery worldwide to achieve a structured reduction of our energy consumption and emissions with concrete objectives. We are committed to considering all relevant laws, norms and regulations as well as the expectations of our stakeholders, and we are also communicating this commitment to our customers and suppliers. We are engaging our employees in this work, whereby a special focus is on the elimination of unnecessary energy consumption. The goals are:

> Commitment to constantly improve the energy efficiency as well as reduction of energy consumption and omission by providing evidence
> Planning the responsible use of electricity, gas and water as well as the elimination of unnecessary usage of capacity and material
> Process-relevant guidance of specific energy costs
> Commitment to securing the availability of information as well as resources that are required for strategic and operative goals
> Compliance with all legal obligations as well as other requirements which we agreed upon
> Regular monitoring and optimization of our energy management systems
> Fine-tuning of the objectives and communicating them to the employees

For the required energy measurements, we have in the last years fine-tuned and automated our meter structures for heat amounts and resource streams (e.g. water, malt and hops

Networked Management System of the Warsteiner Brewery



consumption). With regards to our energy meters, we see additional potential to create more transparency and subsequently plan to expand the structures accordingly to ensure a more secure achievement of our environmental and efficiency objectives through more detailed analyses.

Work and Health Management

The work and health safety of our employees and business partners are a top priority during the design of our products, processes and workplaces. The creation takes place by considering all applicable laws, norms and regulations as well as the expectations of our stakeholders, especially those of our employees. Based on the risk analyses and existing accident statistics, we strive for continuous improvement.

Q&S Charta and GMP for Animal Feed Safety

With the standardized management system Q&S Charta and GMP for animal feed safety, we want to comply with the legal requirements regarding the marketability of our by-products of beer yeast and brewer's grain, and comply with customer demands regarding animal feed safety. Thus, we perform a sustainable contribution in the raw ingredients chain from farmer to shop counter.

Risk Management

For the early detection of risks, which could possibly jeopardize the existence of our brewery, we use a standardized risk management system that helps us to identify, analyze, and assess systemic risks in the entire company as well as design and implement safety measures and continuously check for potential improvements.

Concept for the Prevention of Hazardous Incidents

To preserve the secure operation of our Waldpark Brewery, which is located in the immediate vicinity to the nature park Arnsberger Forest and close to the outskirts of water protection zones, we try our utmost every day to keep the company's impact on our natural surrounding as minimal as possible. To assure that during our operationally necessary work with dangerous substances, no hazard develops for the environment, we have created a concept to avoid hazardous incidents, which preserves as a safety management system our sustainability guidelines. In the safety management system, the relevant steps according to the Hazardous Incidents Ordinance, Section III, are managed. For the unlikely case of a disaster, a precise alarm and hazard prevention plan is in effect, which manages the process of all necessary safety measures. Regular joint exercises with external rescue forces (e.g. the Warstein Fire Department) are routinely performed, similar to the regular training of our internal crisis management task force.

Management of Our Social and Ecological Support Contributions

Based on the analyses and findings from our stakeholder dialogues and in accordance with our sustainability guidelines, we determine the concept for managing our supporting contributions for nature and local communities. For our social engagement, our Sustainability Council defines objectives and frameworks, and recommends the allocation of funds for the community and nature, whereby the decision for awarding the funds lies with the managing partner. The analysis and coordination of compliance with our support objectives, the concrete selection and awarding of funds for community and environment are closely followed by our corporate communications department. The sponsoring management is led by the marketing department, whose head is also a member of the Sustainability Council.

Quality Management: DIN EN ISO 9001:2008

Our quality management system has been certified to DIN EN ISO 9001:2008 already since 1994. At the end of 2012, we implemented the current norm DIN EN ISO 9001:2008. Accordingly, all required processes, responsibilities and interfaces for the processes that are operationally necessary for our brewery are defined in the form of process descriptions. The goals are:

- Ensuring high customer satisfaction
- Continuous improvements of processes
- Consideration of our stakeholders' expectations, in particular customer requirements
- Delivery of evidence regarding the availability of products and services that fulfill the requirements

Management Handbook

In our management handbook, our management systems as well as our corporate goals are documented as action guidelines for the various tasks of our employees. All derived goals, that should be achieved in the short, middle or long-term from an economic, ecological or social perspective, are defined by the executive management. The Sustainability Council functions here in a consulting role. With the help of the department heads, the goals for each employee are defined and appropriately communicated.

The agreement concerning these objectives takes place at a minimum once a year during the employee reviews, in which concrete, individual goals are agreed upon and documented. For goals that can be identified in measurable quantities or key indicators, an agreement about the numbers is reached; for instance, in sales with regard to the planned sales volume, or in the technology area with regard to consumption indicators, including energy-relevant numbers and additional resources. At least once a month, all key indicators which are generated from various data sources (e.g. SAP, energy database, lab information and management system [LIMS] and from our process guidance systems), are analyzed and evaluated. This timely data tracking allows us to instantly react to deviations and, if necessary, initiate corrective measures to ensure improvement.

Our Understanding of Sustainability Is Firmly Anchored in Our 260-year-old Family Company

Already during Albert Cramer's times, the continued orientation of the Warsteiner Brewery followed this responsibility principle. For all management positions, we ensure that our basic values and sustainability guidelines can be pursued by all employees. Accordingly, appropriate training measures can be used by members of the executive management as well as department heads, and the advice of external parties is repeatedly obtained.

Our Sustainability Council Is the Top Panel for Preserving Our Values

Handed down over centuries – and building upon – our sustainability management in today's modern form is the responsibility of top management. Our central Sustainability Council which meets twice a year, consists of members who are primarily responsible for deciding our sustainability topics. With this broad setup, we ensure that our sustainability, corporate, and brand strategies are aligned with each other.

Executive Management

> Catharina Cramer, Managing Partner
> Stephan Fahrig, CFO, Finance & Administration
> Peter Himmelsbach, CTO, Technology & Production

2. Upper Management

> Stefan Bastert, Head, HR
> Ulrich Brendel, Head, Technology & Production
> Nils Handke, Head, Sales Trade
> Frank Homann, Head, Quality Assurance and Management Agent
> Stefan Leppin, Head, Corporate Communications
> Jordi Queralt, Head, Marketing
> Uwe Salvey, Head, Logistics
> Andreas Wiepck, Head, Procurement

The Sustainability Council is chaired by the Head of Corporate Communications who is responsible for the sustainability management. The tasks of the Sustainability Council are:

> Guidance, analysis and evaluation of the stakeholder dialogue and its results
> Creating solutions for conflicts of interest between ecological, social and economic expectations
> Definition of significant fields of action, including the deductions of goals and measures
> Development and continuous assessment of sustainability strategy as well as guidance and coordination of sustainability initiatives
> Integration of sustainability goals in specific management systems and sub-strategies
> Assignment of responsible organizational units for the implementation of measures
> Support of the operational areas during implementation
> Monitoring, analysis and evaluation of our sustainability performances
> Coordination of the decision-making process which leads to the definition of the comprehensive implementation of our responsibility

Implementation of Our Sustainable Basic Values by All Employees

To ensure a sustainable, successful development of the Warsteiner Brewery, we pursue a comprehensive approach to our sustainability management. It basically means to question during a work day any newly emerging influences and subjects with regard to their chances and risks that they may pose for our corporate development. To address these questions, which may be complex, in a unified way, a continuous communication between the executive management and the employees is necessary, in particular among the department heads, who discuss in regular meetings with the executive management current projects and tasks within their departments.

Larger project tasks, which are planned for the future and may incur greater investments, are addressed by the department heads in dialogue with the executive management as a first step already during the course of the annual budget planning sessions of the departments, which take place each fall. Following these talks and starting in January, annual discussions about individual objectives between the responsible managers and the executive management take place, in which major projects as well as additional plans and goals of the individual business units are discussed and drilled down in more detail. In addition, the executive management uses the opportunity in monthly board meetings to gather information provided by the managers about the current project status and to address any open questions. These board meetings also occur separately for the international section of Warsteiner, also in monthly intervals.

The executive management regularly uses in so-called council meetings the opportunity to reflect upon and discuss its own performance regarding the direction and development of the company. This council, consisting of two experienced managers, a former President of the State Central Bank North-Rhine Westphalia, and an expert for the hotel industry and gastronomy, meets twice a year.

A majority of the daily work-related actions and activities of all brewery employees is governed by the brewery-certified management systems, in particular by the quality management system according to DIN ISO 9001. In the management handbook of the Warsteiner Brewery, procedures are defined for all corporate divisions and their occurring tasks and work, which are repeatedly modified over time, updated and if necessary, also expanded. The compliance with procedural guidelines is spot-checked in regular, internal audits within the departments, as well as regularly checked and confirmed through external audits by the Technical Control Board (TÜV Nord).

We Consistently Balance Our Social, Ecological and Economic Goals with the Expectations of Our Stakeholders

Based on our continuous stakeholder dialogues, we prioritize topics, goals and action areas that are relevant for the Warsteiner Brewery, which you can find in the Relevance Analysis in Chapter I.2.2. Based on this foundation, we have set additional goals and measures for the future to further develop our sustainability approach. You will find these goals and measures within the sequence of our value added processes as well as in the chapters of this report.

I. Sustainability management

Goals/Measures	Goal horizon, references
Based on our first sustainability report, which provides transparency and encourages us to address further improvements, we would like to engage even more intensively in our stakeholder dialogue. With this publication, we allow an assessment according to our own sustainability goals, and we continue to report about our achievements.	Continuously
Collection and evaluation of feedback and reader surveys regarding this sustainability report	Continuously
Updating the relevance analysis in two year intervals	2014
Increased exchange with non-governmental organizations (NGOs) regarding our sustainability performances	From 2014 on
Further strengthening the awareness across all departments to include ecological and social criteria in goals and decisions beyond the conventional economic and qualitative criteria	Continuously

II. Market strategy

Goals/Measures	Goal horizon, references
Further optimizing the support and strengthening of our gastronomy customers with relevant information through a new Internet website “erfolgswirtschaft.de”, with recommendations regarding tapping technology and safety, beer maintenance, cleaning of tapping technology and glasses as well as recommendations about beer storage	From 2013 on
Saving of paper by replacing our sales folder, product data sheets and sales handbooks with digital sales material via tablets used by our sales force. Our goal is to save approximately 40 kg of paper per sales rep per year (totaling 6,000 kg)	From 2013 on
Enhancing our brewery tours with sustainability facts and themes to create awareness among our guests regarding environmental and social topics	From 2013 on

III. Supplier management

Goals/Measures	Goal horizon, references
Continuous development of our Code of Conduct for suppliers, which is in effect since 2010, with regard to a detailed orientation along international sustainability standards	2013
Implementation of the enhanced Code of Conduct for all significant suppliers	From 2014 on
Implementation of the enhanced Code of Conduct for waste management service providers	From 2014 on
Publication of the Code of Conduct on our Internet website	From 2014 on

IV. Production

Goals/Measures	Goal horizon, references
Continued collection of ideas regarding saving material, systemic analysis and evaluation of material flow concept	Continuously
Exploration of energy-heat-linkage via our block heat power plant	Continuously
Holding our high benchmark regarding water consumption per produced liter of beer despite increased complexity resulting from increased product variation	Continuously
Continuation of the close assessment of packaging materials during planning and procurement with regard to expected waste volumes	Continuously
Concerning our energy counter (DIN EN ISO 50001:2011), we see continuous potential to create transparency and plausibility while establishing our energy flows in addition to the already implemented measures. Accordingly, we plan the expansion of the structure to better plan our environmental and efficiency goals with the help of detailed analyses, which will lead to faster implementation.	Continuously

V. Product responsibility

Goals/Measures	Goal horizon, references
Objective of long-lasting use of exclusively premium ingredients to continue to remain true to our premium quality commitment	Continuously
Preferred use of natural ingredients for our mix beverages, as long as they are available in good quality and sufficient amounts	Continuously

VI. Logistics & Transport

Goals/Measures	Goal horizon, references
Expansion of our railway transports. Transferring more materials onto the rails and search for external cooperation partners for creating transport network	Continuously
Gradual replacement of industrial trucks with electric or other more environmentally friendly and efficient trucks; dependent on the current status and development of costs	Continuously
Gradual replacement of our current cars and trucks with environmentally friendly vehicles based on the relevant current technological status	Continuously
In addition, focused consideration of ecological contributions during the purchase of cars and trucks as significant selection criteria	Continuously
Consistent recommendation to our employees to avoid air travel if possible (not a significant amount anyway), because the environmental impact is significantly higher here when compared to other modes of transportation. Alternatively, we are increasing the use of telephone/videoconferencing and rely on rail travel for business	Continuously
Implementation of ecological efficiency and road safety training for our driving employees	Continuously
Objectives for new leasing vehicles with lower emissions of max. 141 g CO_2/km and Euro-Emission Class VI	From 2014 on

VII. Recycling & Reuse

Goals/Measures	Goal horizon, references
Systematization of the collection and documentation of all paper types used at the brewery with the goal to pursue further optimization opportunities by using sustainably produced paper	From 2014 on
Increasing elimination of rare resources (e.g. fossil fuels) and increased consideration of renewable materials during the packaging development	Continuously
Use of valuable raw materials in the recycling chain to make valuable recycling possible	Continuously
Economic use of material altogether with consideration of energy use and emission during transport	Continuously

VIII. Employees

Goals/Measures	Goal horizon, references
Revision of the employer branding concept: Employee loyalty and recruitment will become more important because of anticipated shortage of skilled labor and demographic aging. We are testing our guidelines by considering the updated expectations of our employees and target employees	2014
Certification of our health management system according to DIN SPEC 91020: Hereby, we hope to continuously optimize the corporate health management, to achieve an anchoring and self-reflection of the responsibility towards one’s own health in the operational processes by all participants and to further reduce the number of accidents as well as sick days.	Fall/winter 2013
Based on risk analyses and existing accident statistics, we work on a continuous improvement of our safety and health management to keep the health of our employees at high levels and to gradually reduce the number of work-related accidents in our company	Continuously
Additionally, we plan to expand our data collection in the future to systematically record all employees with leadership tasks	2013

IX. Society

Goals/Measures	Goal horizon, references
Consequent development of our social engagement	Continuously
Strengthening of our contributions for the preservation of nature in dialogue with well-known nature conservation organizations	From 2014 on
Evaluation of possibilities for increased support of scientific studies into the causal research of alcoholism	From 2014 on

Our Engagement for Sustainable Operation and Responsible Entrepreneurship Has Received Multiple Awards

2008

PRODUCT OF THE YEAR
for Warsteiner Alkoholfrei (non-alcoholic)
Trade Magazine Lebensmittel Praxis

2009

OVERALL SCORE VERY GOOD
for Warsteiner Premium Verum
Magazine Öko-Test

“TOP JOB” – ONE OF THE BEST 100 EMPLOYERS AMONG THE GERMAN MEDIUM-SIZED COMPANIES
for the Warsteiner Brewery
Institute for Leadership and HR Management at the University of St. Gallen

2010

ENERGY MASTER AWARD
for our project “Integration of a Block Heating Power Plant”
International Network group “econique” in the category “Energy efficiency in medium-sized businesses”

FAMILY FRIENDLY ENTERPRISE
for the Warsteiner Brewery
Economic Development for Soest County

2011

HIT-AWARD
for Warsteiner Radler Zitrone
LPV Media GmbH in Neuwied, Lebensmittel Praxis

PRODUCT OF THE YEAR 2011
for Warsteiner Radler Zitrone
established by the Food Trade Jury; LPV Media GmbH in Neuwied, Lebensmittel Praxis

TOP SHOP AWARD 2011
for the development of our brand in the convenience store and gas station segment
LPV Media GmbH in Neuwied, Lebensmittel Praxis

2012

HIT-AWARD 2012
in the segment “Best New Products” for Warsteiner Radler Alkoholfrei (non-alcoholic)

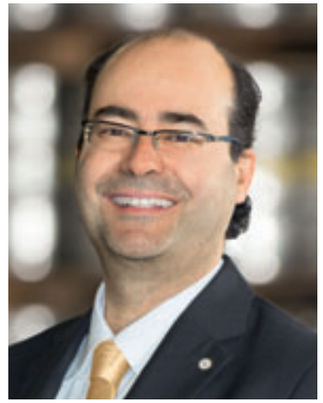
FAMILY FRIENDLY ENTERPRISE
for the Warsteiner Brewery
Economic Development for Soest County

INNOVATION PRIZE 2012
for the certification of our energy management system according to DIN EN ISO 50001:2011
Economic Network “Sauerland Initiative”

II MARKET STRATEGY

The Warsteiner Brewery and Its Market

“In this chapter, we could tell you a lot about the unique taste of Warsteiner. But really, only you can experience it for yourself and come to your own conclusion. Thanks to our traditional as well as state-of-the-art technology, and due to the use of top-quality raw ingredients, Warsteiner has ensured premium quality at the highest level for years. The Warsteiner brand stands for top-quality in many ways. With our leading products, we reach countless consumers and see ourselves as a national brand that plays an active and successful role in the market with very high recognition and popularity. For us, premium is not just an empty word, but a special commitment. We assume a quality leadership position by demonstrating and implementing our economic, ecological and social commitments in all relevant business processes.”



Jordi Queralt, Marketing Director
Warsteiner Brewery

II.1 260 Years of Family-operated Economic Powerhouse For Brewing Purest Beer

The Warsteiner Brewery Has its Headquarters in the Northern Part of the Sauerland Region

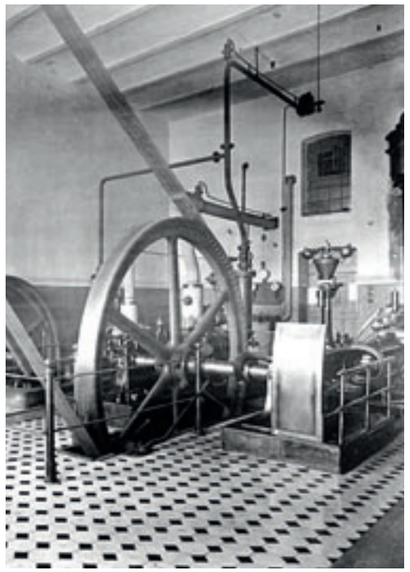
This southern Westphalian region is home to a strong, prosperous economy with many financially sound family enterprises and small- and medium-sized companies, a variety of respectable educational institutions, low unemployment, and an honest and direct mindset that is firmly planted with both feet on solid ground. In addition, the Sauerland countryside with its mountains, lakes and dense forests offers a very high quality of life for both residents and vacationers. The inhabitants of the Sauerland associate with Warsteiner and its owner-family Cramer not only its excellent beer, but also continuity and success in the management of the company, environmentally sound production techniques, a closeness to people and nature, and, last but not least, a strong reliable economic engine for the region. For 260 years, we have been working to ensure this image and to develop it further.

With our market strategy for the Warsteiner Brewery as a provider of top premium beers, we constantly try to consider and follow economically, ecologically and socially the expectations of our stakeholders: Use of the best raw ingredients, highest production safety, state-of-the-art and innovative technology, leadership in environmental protection, strong regional anchoring, many and safe jobs, strong premium brand positioning in all price segments, international popularity, high market shares, active market design through high innovation performance. With our products, we do our utmost to attract a broad audience with high customer satisfaction and to achieve a high purchase rate. We actively pursue this premium position and would like to convince you of its authenticity with, among other things, this sustainability report. Today, this positioning places the Warsteiner Brewery in the Top 10 of the more than 1,300 German breweries, and it is the Top-3 Pilsener brand (Source: Inside Beverage Market magazine Nr. 668, pg. 7). The most important trading unit in the retail sector in general as well as for our brewery is the case with 20 x 0.5 l returnable bottles. In our home market of North-Rhine-Westphalia, this trading unit has an approximately 70 % share (Source: Nielsen 2012).

Furthermore, we would like to expand this market position: We are well aware that potential quality fluctuations or inadequate product safety can quickly lead to loss of trust among our customers. For this reason, we will show you in this sustainability report in great detail that we work across all phases of our value-added-chain with the commitment to continuously ensure the highest quality. In our market efforts, our top objective is the following: to build trust through continuity, reliability and fairness. As a leading company in the beverage industry, we want to position ourselves with our products, services, innovations and sustainability contributions in a progressively fair and sustainably transparent way, particularly in this hard-fought competitive environment. We firmly believe in convincing our customers over the long run with our performances, even when faced with increasing environmental and social concerns.

Based on the traditional values and with 260 years of experience in nine generations of the Cramer family, the Warsteiner Brewery today offers security in the market and thus also security for its employees, customers and business partners. According to our sustainability guidelines and responsibilities (see Chapter I.2), we align ourselves in the market along the lines of the expectations of particularly these stakeholders. This is the only way to reliably secure our economic success. In “Sauerländisch” we always say directly what we think. Thus, we create reliability and trust for our employees, customers and business partners. We are well aware that in the fast-paced and highly competitive beer market as well as in the food market with its many scandals, we need to constantly work towards earning this trust by quickly recognizing the wishes and expectations of our customers and quickly addressing them with top products, services, innovations and sustainability contributions.

Leading premier quality in economic, ecological and social accordance



Milestones of the Warsteiner Corporate History

1753 First records show that Konrad Cramer was charged a beer tax.

1899 Conversion of the manually operated brewery to a modern steam beer brewery which at the time was considered state-of-the-art technology allowing for a significant expansion in production. The brothers August and Albert Cramer were able to convince their father Casper Cramer to make this investment decision, after the older of the two brothers had just completed his studies at the Brew Academy in Worms with a brew master diploma. In the following years, the family kept investing vigorously and acquired many new facilities, which quickly advanced the growth of the brewery.

1928 Discovery of the ancient Kaiserquelle (spring) in the Arnsberger Forest which provided the Warsteiner brewery with extremely soft brew water of the highest quality.

1945 ff. In the years after the war, when raw ingredients were scarce, the Cramer family gained new customers in the larger cities along the Rhine and Ruhr Rivers. For instance, in the nearby heavily destroyed city of Dortmund, also famous for its breweries and beer, the local breweries took a long time to resume production. In these years of emerging prosperity, the Warsteiner Brewery began to creatively develop innovations regarding the production of its beer which proved to be far ahead of its time.

Rapid rise of the Warsteiner Brewery with sensational innovations

1953 ff. At the time, beer was almost solely filled in large 0.5 L bottles with a swing stopper, also called vernacularly "a mason's bottle." With the so-called Lux-bottle, a rather slim 0.33 L bottle with gold foil around its neck, Warsteiner addressed women for the first time as consumers. As advertisement grew more important, Warsteiner set benchmarks by using sophisticated, dressed-up, young ladies as testimonials. At the same time, the bottle labels were modernized and special editions of beer coasters were introduced in the market.

1970 ff. In cooperation with Warsteiner, the then-chief designer of the glass company Rastal, Hermann Hoffmann, designed exclusively for Warsteiner the elegant "Warsteiner Tulip." Today, this glass is still a distinctive brand icon for Warsteiner. In the eyes of the Cramer family, the elegance which surrounded the Warsteiner brand in advertisement and gastronomy was intended to become an expression of the premium, unique quality of its beer. And the success proved the brewer family right. In 1970, the beer output of the brewery was still below 400,000 hL, yet five years later it was already over 700,000 hL. During these years, the Warsteiner Brewery placed significant emphasis on the expansion of its distribution by cooperating with beverage wholesalers, a trend that had just started to develop and later became the norm. From that time on, Warsteiner was enjoyed in the entire Federal Republic of Germany.

Especially the exclusivity and elegance, with which the beer from Warstein was communicatively introduced, made it socially accepted at a high social level across large segments of the German population. Warsteiner found its way into concert halls and opera houses, and was served in top hotels and gourmet restaurants on silver trays. Warsteiner overcame the image as "Mason's bottle" and established itself as an equal alternative to champagne and wine at official social gatherings. In the gastronomy sector, the brewery fulfilled the image of true hospitality, which attracted new consumer segments and pushed the revenue numbers further up. In connection with the brand name Warsteiner, the term Premium Pilsener was born. Style and exclusivity were and are hallmarks of the Warsteiner premium culture.

1977 Due to the successful rise of the brand, the then-senior brewery CEO Paul Cramer and his son, Albert Cramer, made the strategic decision to stop the existing production of lemonades and other beer types and to only brew pilsener from that point on. Warsteiner became a so-called monobrand: Warsteiner Premium Verum.

1978 The strong growth of the Warsteiner Brewery necessitated the move from the brewery's location in the center of the town of Warstein. Outside of Warstein proper, on the green meadows of the nature preserve Arnsberger Forest, the newly built Warsteiner Brewery was inaugurated. As always, the demands of environmental protection and the residents of Warstein were considered (see below). The Waldpark Brewery is harmoniously embedded in the idyllic Langenbach valley just outside of Warstein. From the very beginning, the brewery had such a large capacity that it was able to answer the eventually skyrocketing sales growth. The brewery output increased to 1 million hL per year.

1983 ff Warsteiner in the fast lane: In 1983, the production volume reached 2 million hL; in 1989, it is at almost 3 million, and two years later at almost 5 million hL. The Warsteiner Brewery reached its absolute highest sales peak in 1994, when it became the first German brewery to exceed 6 million hL. The prominence and popularity of Warsteiner had achieved a never anticipated sales record in Germany.

1994 But this incredible rise and success also brought ill-will and envy. In gastronomy circles in Hamburg, rumors were spread that linked the Warsteiner Brewery with the Scientology sect. Initially, the brewery did not pay much attention to these rumors, as the owner family Cramer was and is firmly connected with the Sauerland region and of Catholic faith. However, when these rumors spread across large sections of Germany within a six months period, the brewery defended itself with large whole-page announcements in all major German dailies against these defamations. The Warsteiner Brewery categorically rejects any connection to the sect in any form and at any time. Today, these rumors have almost been silenced and do not play a role in the daily operations of the brewery. Our company received certain rehabilitation in February 2010 in the German NDR TV broadcast "Zapp" which described the events surrounding Warsteiner as a classic example of a perfidious smear campaign.

Break in economic success due to defamation with the scientology sect

2003 250th Jubilee of the Warsteiner Brewery: A ten-day "Thank you Jubilee Party" for friends, employees and customers.

2005 Inauguration of our emission reducing railway siding with container terminal (see Chapter VI).

2010 Start-up of our energy saving block-type thermal power station (see Chapter IV), as well as numerous other ecologically and socially significant measures.

2011 Opening of the Brew Academy for Research and Development – another milestone in the Warsteiner sustainability concept – as well as renovation of the boiler house to further increase efficiency of the entire facility by saving 2.8 GWH (Gigawatt hours).

2012 Renovation of the entire cooling system of the Warsteiner Brewery for further energy efficiency improvement.

All Our Successes Are Based on Our Customers' Appreciation

Without "working on it", i.e. without the constant effort to understand the expectations and demands of our customers through countless conversations as a foundation for our business directions, these successes cannot be maintained in the long run. This basic business understanding, today also referred to in the field of market cultivation as "CRM – Customer Relationship Management," always had a special relevance for the Warsteiner Brewery. We pursue various avenues to initiate the dialogue with our customers and end consumers, so we can learn from them and adjust our offerings accordingly. A couple of examples:

■ In addition to the **ongoing dialogue with our customers**, we regularly gather with the help of representative **market research**, a variety of customer expectations for the most relevant market-effective developments of our products and to optimize the entire market cultivation. In numerous studies (e.g. in-depth interviews), we test case-by-case, for instance, which packaging design our consumers prefer prior to the introduction of new products.

Based on these findings, a detailed project plan addresses first the design development process and then the product introduction. Prior to its launch, we also test new advertisement concerning sympathy, understanding, our ethical standards and convictions.

■ Every two months, we check the **market success of our product** compared to the competition; for instance, with the market research panel Nielsen and the Gesellschaft für Konsumforschung GfK. This effort allows us to recognize developments in the beer market, including individual beer brands, regions, retail chains and a variety of other measured values; including the question, how many liter per brand were sold per market and month and in what packaging.

■ We test the **satisfaction of our customers** regarding our performance with the help of various tools: Once a year, we ask an independent market research institute to conduct surveys with decision makers in the retail sector; for instance, we inquire about the professional competence, communication, frequency of visits and cooperation of our field reps as well as about the frequency of actions, quality and sales effectiveness of our sales promotions. In competitive benchmarks, beer brands and breweries are assessed according to satisfaction criteria. Customer feedback is collected via surveys and interviews. Additionally, we optimize our field organization regularly with the help of these findings regarding market demands.

■ In comprehensive studies (e.g. UGW-Study of the Market Research Institute IM+C), we collect input about the **satisfaction of the distribution intermediary** regarding Warsteiner. Essential criteria like image, popularity, innovation capacity, creation of sales growth, implementation at the POS, configuration competence, price and term systems, satisfaction with the sales team, logistics and service quality are being queried in direct comparison with other premium brands. Warsteiner receives top evaluations in this benchmark comparison with competitors. The results of these direct comparisons with the competition help us to constantly develop and implement improvements.

On our Internet **Facebook page**, we record the comments of our end consumers about our products, advertisements, sales promotions and top events. In 2011, more than 77,000 Facebook users declared themselves to be fans of Warsteiner. In 2012, the number jumped to 170,000 fans. In addition, we also use our Internet page as an important tool for facilitating the conversation with our customers. In 2011, warsteiner.de received about 685,000 hits, while in 2012 881,000 visitors looked for information about our brand and engaged in a dialogue with Warsteiner.

Open dialogue with our customers on all channels

The **visitor center, Warsteiner World**, offers the chance for everyone to get detailed information about the brewing process, our products and the history of the brewery. Every year, more than 55,000 visitors enjoy this opportunity to learn more about their favorite beer brand and often end their visit with a freshly tapped Warsteiner among friends. Our well-assorted **Warsteiner shop** offers a variety of fan articles, from numerous glassware to clothing to theme-related special collections, e.g. articles for fans of equestrian sports, soccer or winter activities.

Top evaluation in customer satisfaction

■ Whether it is in equestrian sports (e.g. **CHIO, Baltic Horse Show**), hot air balloon sport (e.g. **Warsteiner Internationale Montgolfiade**, the largest annual hot air balloon festival in Europe), or in snow and ice (e.g. **ski jumping in Willigen**): Where there is suspense and action, Warsteiner is there. In top sporting events or in mass sports, in clubs, at city festivals, at concerts as the beer partner (e.g. **Berlin Festival, Melt!**) or at regional and traditional festivals, Warsteiner plays a significant part and is an important partner. We use these excellent activities to exchange information with honorable guests and prospective customers from the relevant region (for more detail see Chapter IX).

A significant finding from these stakeholder dialogues is the fact that these expectations of us are very heterogeneous. Accordingly, we have continued to specialize the appeal and services for our stakeholder groups.

Consequent orientation of our service to meet the expectations of our customers

Our sales structure is being consequently adjusted according to market structures and expectations that are continuously collected. We differentiate the sales sectors according to retail and gastronomy, in which the market intermediaries (beverage distributors, retail customers and gastronomy outlets) and end consumer are the focus of our support efforts and dialogues. The market intermediaries are primarily supported by our sales force. Our sales force is further solidly supported by our sales support team, which processes and synthesizes the topics and expectations of our customers.

We also structured our customer service in national key accounts for major national customers, regional key accounts particularly for beverage retail chains, and gastronomy key accounts for hotel chains – all geared towards our ability to concisely address the different customer expectations. This allows us to systematically achieve high quality customer service, which we value as an important competitive factor in the beer market. In particular, we offer extensive services to our gastronomy partners. The top objective of our service offerings for our partners in the gastronomy sector is to provide first class service performance, which in turn helps them to achieve joint success. Additional details about our market cultivation and product responsibility are introduced in Chapter V.1.

Additional economic numbers, data and facts

The capital of the Warsteiner Brewery belongs completely to the total assets of the Haus Cramer Holding KG. As the central asset holding company, it holds the entire capital of the Haus Cramer Group, whose partners in the first years of the reporting period were Albert and Catharina Cramer. Since the death of Albert Cramer in November 2012, his daughter Catharina owns 100 % of the interest in the Haus Cramer Holding KG.

This sustainability report covers the entire brewery and export business of the Warsteiner Brewery at its Warstein location. The turnover revenues of the Warsteiner Brewery Haus Cramer KG include the sales revenue of the Warsteiner brand as well as other beverage brands of the Haus Cramer Group (with the exception of Paderborner). They are consolidated together with the turnover revenue of all other group companies of the Haus Cramer Group under the roof of the holding company Haus Cramer Holding KG and published annually as the year end's result of the Group, accessible in the electronic Federal Gazette (Bundesanzeiger).

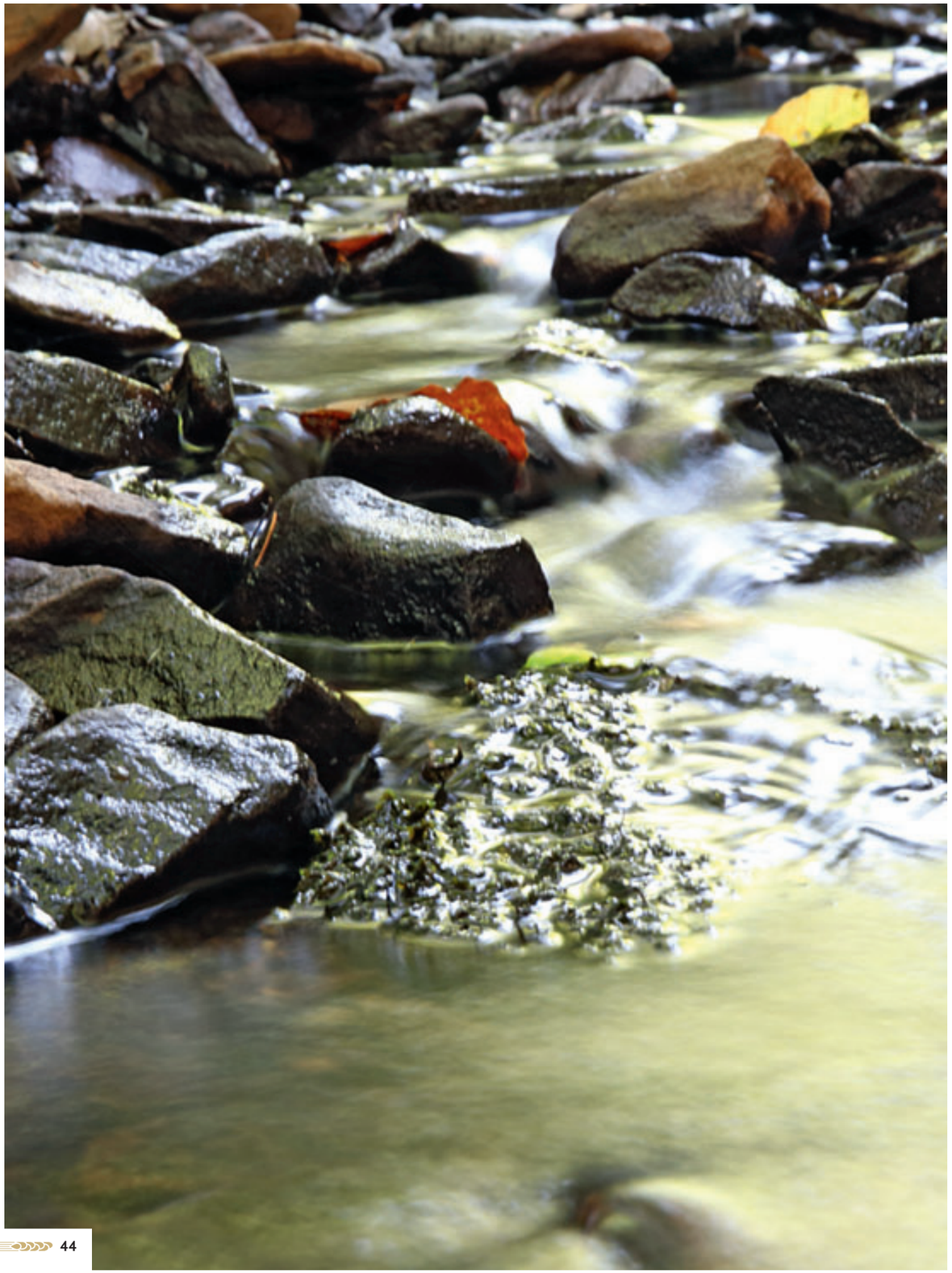
At this point, we would like to report a change in the subsidiaries of the Warsteiner Brauerei Haus Cramer KG during the reporting period. It refers to the closing of the production location Neuss/Holzheim of the Privatbrauerei Frankenheim 2010. Since then, the beer Frankenheim Alt is brewed in Warstein, which results in greater capacity utilization at the Warsteiner Brewery in Warstein. The production location in Neuss/Holzheim was sold after its closing. The marketing and sales employees continue to be located in Düsseldorf.

With 801 employees (end of 2012), the mid-sized Warsteiner Brewery is an important employer and significant tax payer in the region. During the entire reporting period, our company has not received any support from public funds and therefore did not strain municipality or state finances. The public authorities do not hold any interests in our company. Similarly, no fines or penalties for non-compliance with laws and regulations were issued against the Warsteiner Brewery.

With regards to our net revenue, capitalization and asset numbers, we do not make this information public in accordance with the law (publication dispensation) for competitive reasons. The whole assets of the Warsteiner Brewery are privately held by the owner family Cramer. We follow the widely held social attitude that one does not have to provide information about the financial private wealth of our partners. We inform you about the amount of our social and ecological support contributions in Chapter IX.

The renumeration of the executive management and department managers consists of fixed and variable portions. The variable portions are result-oriented and adjusted according to the economic total success of the company (see Chapter VIII.4).

True to the understanding of our family-owned, centuries-old tradition, and today combined with the responsibilities of our sustainability guidelines (see Chapter I.1), we strive for long-term growth of our company value. With this backdrop, the owner family Cramer agrees that a majority of the generated profits remain in the company and thus secure its economic independence. Additional financial data is published in the electronic Federal Gazette in the consolidated financial statements of the Haus Cramer Holding KG.



II.3 The Warsteiner Waldpark Brewery with Its Own Water Sources

For More Than 30 years, We Brew in the Warsteiner Brewery in the Waldpark

Until the 1980s, the entire production facility was located in the center of Warstein. In accordance with the expectations of the Warsteiner residents and in compliance with communal plans regarding the town center's redevelopment, the entire company facility was newly designed. In the Warsteiner town center, today's administration building was newly erected on the Domring 4–10 location, outside of protected areas. All production facilities were moved out of the town to the Waldpark Brewery, to improve the look of Warstein proper, to remove the traffic generated by our brewery, and also to support the economic expansion of Warsteiner with alternatively useful areas.

Our Waldpark Brewery Consists of Three properties in Close Vicinity:

> the production facilities, the laboratory, the workshops, storage and logistics warehouses as well as the technical administration of the Waldpark Brewery (Im Waldpark 1, 59581 Warstein): 0.5 km² Commercial/Industrial area
> our visitor center Warsteiner World (Im Waldpark 10, 59581 Warstein): 0.1 km² Specially zoned area
> the brewery-owned Sport and Equestrian Center (Paul-Cramer-Allee 2, 59581 Warstein): 0.1 km² Specially zoned area

The three properties of the Waldpark Brewery are located in the water protection areas of category III A and III B, with adjacent residential and agricultural areas. Immediately next to the Waldpark Brewery is the nature preserve Arnsberger Wald. The dense forests with their variety of biotopes offer an important biodiversity of landscape-specific animals and plants, but also a variety of rarer flora and fauna. The hardwood forests with their amphibians, fishes, birds, small mammals and insects as well as natural headwaters and water biotopes including sections of small rivers and valleys, wetlands and swampy meadows all the way to reeds, natural standing water and flowing creeks are part of a natural landscape worth preserving.

Here, you also find protected wetlands and water areas that feed the ancient Kaiserquelle (spring), which was discovered in 1928 by the brewery and built to be a well. From these old, protected natural springs, we collect our unique, particularly soft brew water. A clean nature product of the highest quality for the Warsteiner premium beers.

The Kaiserquelle originates from three headwaters and bodies of flowing water respectively: Kaisersiepen, Widey collecting pond and Widey seepage area in the environmental preserve Arnsberger Wald flow together into a single lake and then disperse further into the woods. From the lake, the fresh spring water flows into an underground water reservoir located under a forested hill into our brewery.

To avoid any negative impact on the springs and the surrounding environment, and to address the demands of tourists and residents, we take great care to protect, maintain and preserve this natural resource that is so important for us all. Water abstraction from an ecological system can affect the environment. The ground water table or the water volume available for usage may sink or the entire ecosystem may become affected. Such changes would have a broad impact on the life quality of the affected areas.

To preserve the water yield, purity and integrity of the Kaiserquelle for years to come, we carefully watch, particularly during the drier summer months when at the same time the demand of our beers is at its peak, that our wells – together with the tributary rivers and streams – are never in any danger of running dry. By perfoming weekly inspections and measurements at the Kaiserquelle and the adjacent streams, an employee of our brewery verifies that the water courses do not fall below the minimum level even in the dry summer months. Additionally, the groundwater office of the Soest Country is supervising our wells. Due to the different rainfall amounts per year, the volume and the throughput amount of our three water source areas that make up the Kaiserquelle will vary. We have the capability to measure the total water supply of the Kaiserquelle area into our water reservoir at the entrance to the filtering system. We do not have data regarding the entire well volume of the Kaiserquelle area.

Special maintenance for the long-term preservation of our natural brewery sources

To avoid any damage to the ecosystem of the Kaiserquelle area, we compensate in the drier summer months by taking additional brew water from the Aabach Dam which contains water of the highest purity and quality for our high brew quality.

Our Kaiserquelle with the purest, particularly soft brew water

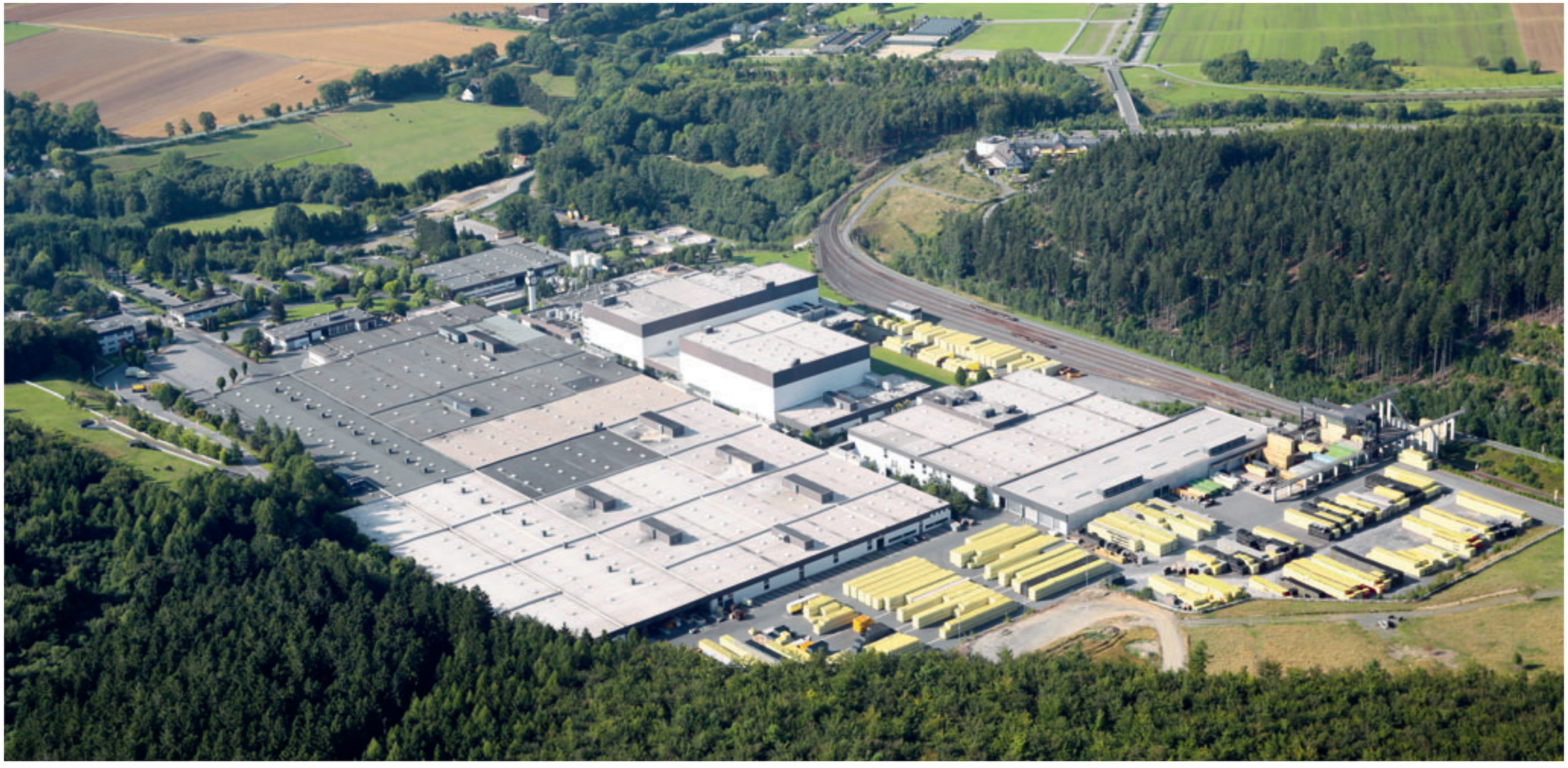
The Aabach Dam is located in a water protection area, the nature preserve Büren-Wünnenberger Wälder and borders on the nature preserve Große Aa. The water of the Aabach Dam has a capacity of 20.5 million m³ water.

Additional natural water sources for additional production processes

In addition, we also have a second proprietary spring; however, we don't use it for brew water but only for additional production purposes (i.e. cleaning of our returnables): The so-called Messingquelle is located between the southern edge of Warstein and the Waldpark Brewery, outside of any water protection areas. A hydrological survey shows that the Messingquelle has a yearly average volume of 919,800 m³ water. Similar to our Kaiserquelle, all our springs are located in the nature preserve Arnsberger Wald, right in the Sauerland countryside with its high biodiversity and recreational value that must be protected for the benefit of nature and people.

In very small amounts, significantly below 5 % of the average annual water volume, we use the following two springs: With the water from the Langenbach River (annual throughput amount over 5,042,000 m³), we have another spring available to use for water for production in our facility, but again not as brew water. The Langenbach River runs between our production facilities and our visitor center and is located in the water protection area of the Zone 3B. Furthermore, we use water in small amounts from the municipal Hillenberg Spring, which is located at the southern edge of town. However, this water does not fulfill our high standards regarding the important quality of our brew water. Its degree of hardness is too high, and we use it solely as rinsing and cleaning water in the brewery. To learn more about our specific uses of the natural resource water, please see Chapter IV.2.1., and the classification of our ecological input-output statement in chapter IV.2.

With this sustainability report, we would like to show you how we realize our business goals in accordance with our responsibilities towards nature – for instance, in the use of our properties and water springs – as well as towards society. In the following chapters, we explicitly present our entire value-added-process to show you how we implement these responsibilities in economic, ecological and social terms.

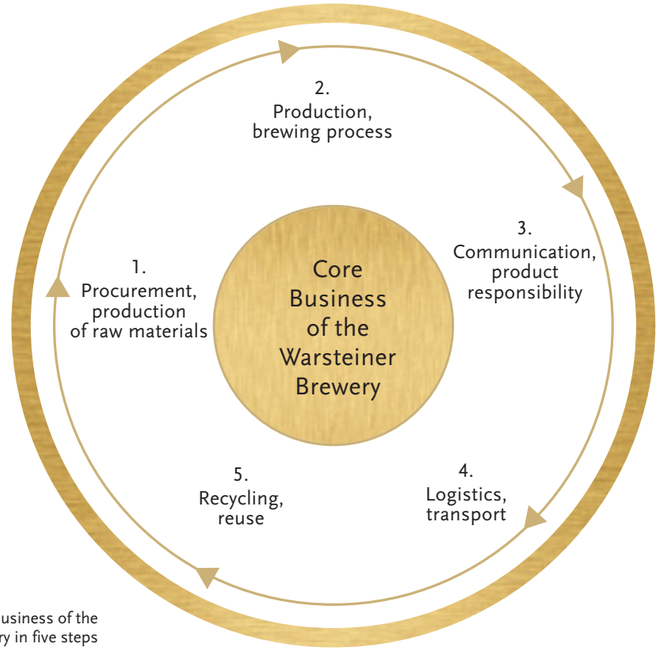


Our Procurement: The First Step in a Sustainable Brew Process

“ The importance of safe-guarding a fair and conscientious conduct with employees, society and nature becomes obvious when looking at the numerous scandals and negative examples of the past years, among them also particularly in the food industry. We want to categorically exclude such issues throughout our entire value-added-chain during the production of our premium beers and services. ”

Andreas Wiepck, Head of Central Procurement
Warsteiner Brewery

In the previous two chapters, we presented our brewery enterprise as well as our understanding, goals and management objectives regarding our business responsibility in the reciprocal relationship to you, our stakeholders. This creates the requirement for our core business, which we would like to shape in a sustainable fashion as much as possible, i.e. ecologically, socially as well as economically.



The core business of the Warsteiner Brewery in five steps

Our value-added process in the transparent light of sustainability

In this chapter, we show you the first step in the production of our beers, i.e. the procurement and production of raw materials. Afterwards, we continue to follow the preliminary products for our beers which were created in this step. We analyze our brew process in great detail, particularly with concern towards its ecological repercussions in nature (Step 2, see Chapter IV.) and introduce you to our procedures regarding food safety for the well-being and health of our customers (Step 3: see Chapter V). Finally, we discuss the efficient and innovative transport of our beer to you, our customers (Step 4: see Chapter VI) and show in the last step how parts of our resources find their way back into the value-added cycle (Step 5: see Chapter VII). Hereby, we present our procedures in full transparency to encourage a discussion about the social, ecological and economic aspects, to learn from one another, and to further strengthen our sustainability contributions to nature and society. We look forward to a constructive dialog.

For us as producers of natural products, it is inevitable that we use natural resources. Every value-added step comes with an ecological impact. Already during the procurement process, we implement high quality standards regarding the substances, materials and energies as well as their impact on nature and society – and we do this already at the very beginning of the process, primarily with our agricultural suppliers. Here, we use our considerable purchasing power as a larger mid-sized brewery to maintain a responsible farming and production approach to our preliminary products beginning with the selection of and cooperation with our suppliers. The methodology and implementation of our "sustainable supplier management" is of crucial significance to implementing our high standards in a mandatory fashion at the supplier level. These standards are a direct result of the expectations of our stakeholders, and we are committed to comply with them as we depend in the long-term on the preservation of the premium quality of our natural products.

Our Positioning in the Buyer's Market

Our premium strategy is the foundation of our buyer activities. We exclusively produce beers of the highest quality and confidently distribute our products with the objective to further grow and secure our company in the long-term. The first step in our value-added process addresses the sourcing, correctly selecting natural resources that meet our high expectations and are best suited for our beers. Additionally, we look for all other substances, materials and energies of optimal quality that are necessary in our value-added process. We introduce and quantify our procurement goods in Chapter III.2 including their ecological tests in Chapter IV.

According to our understanding of premium strategy, only the best input materials and systems for continuous monitoring of the supply chains during our procurement offer the security for consistently high quality products. Only by adhering to our high quality demands throughout the entire production process, from the barley and hops producing land of our agricultural suppliers to the enjoyment of our products by our customers, we align ourselves along the high expectations of our stakeholders. This is of top priority for us. Therefore, the strategic procurement decisions are of crucial importance to our company.

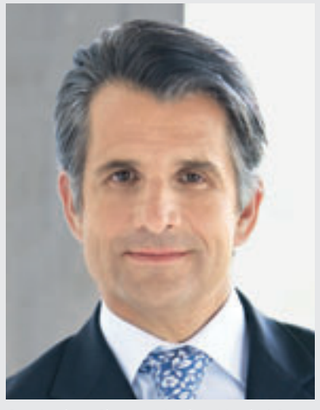
As a leading, internationally engaged enterprise in the consumer goods industry, we advocate environmental protection as well as respect for human rights and fair working conditions. As part of our "Sustainable Supplier Management" shown on page 55, we use our buying power for implementing concrete demands for securing and improving environmentally friendly and social supplier action. According to this systematic approach, companies as well as the entire industry have a highly significant, in our opinion actually the most effective, leverage to ensure environmental protection, fair work conditions and a more just wealth development, for instance in emerging countries. A simple tool that can achieve a great and positive effect through its responsible application by many companies.

Our Qualitative and Environmental Demands on Our Suppliers

"Sustainable Supplier Management" as the greatest leverage for a more just world

As a buyer of agricultural products, which constitute a significant portion of our procurement, we share the responsibility for many environmental problems. Crop planting causes the most impact with its use of fertilizers and pesticides, often with significant issues (eutrophication) for surfaces waters and negative impacts regarding the biodiversity of farmland and its surrounding environment. The loss of humus soil in conventional agriculture causes a loss of soil quality and its ability to store water.

"Our commitment focuses on providing the guests in our hotels and restaurants with a special experience. This includes our hospitality, our welcoming ambiance as well as select dishes and premium beverages. With Warsteiner, our flagship product, we are confident we are fulfilling our customers' high expectations regarding purity and freshness. For a great feeling."



Otto Lindner, Chairman Lindner Hotels AG

Farmland is being expanded at the expense of natural biotopes, which may lead to an often drastic reduction in biodiversity and a release of greenhouse gases. Pesticide residues that are not completely biodegradable, may pose a health risk. Furthermore, genetically modified seeds are the focus of public outrage, and the climate effects of agricultural production are discussed with increasing frequency.

Guided by our motivation and commitment, we also expect our suppliers to accept their responsibility in protecting the environment. The strict observation of applicable regulations regarding environmental protection is a must for us and our suppliers. Our important suppliers must ensure this compliance with appropriate, preventive measures and environmentally friendly processes. Their actions and standards regarding resource usage, emission reductions and waste management as well as taking steps for the protection of biodiversity have to comply at a minimum with the legal requirements and must be continuously improved, just like we are committed to do so ourselves. Similarly, we request our most important suppliers to promote environmental awareness among their employees and to comply with the work and health protection regulations.

The use of natural ingredients is our priority. We do not use any genetically modified or irradiated organisms. In addition, resource preservation means for us that the agricultural over-fertilization, pesticide residues or even toxicity of our products must be rigorously prevented. For that reason, we are trying to eliminate the use of resources that may present a danger to biodiversity through their origin and production. Whenever such problematic cases become known, we look for alternatives or eliminate the hazard. However, no such cases have occurred with our suppliers so far.

Compliance and audited management systems for a responsible procurement

Our Social Requirements for Our Suppliers

Additionally, we only order from suppliers who show a similar commitment regarding compliance with responsible working conditions. Hereby, we follow internationally recognized norms and standards: ILO-Conventions, UN Global Compact, OECD Guidelines for Multinational Enterprises, ISO 26000, UN-Human Rights Declaration as well as UN Convention against Corruption. In particular with regard to the following requirements, we would like to contribute nationally and internationally to ensure and improve the work conditions directly at our suppliers' production sites: Compliance with the law, elimination of child labor, forced labor, corruption as well as implementation of fair wages and work hours, health and safety at the workplace, equal treatment, freedom of expression and freedom of association as well as the right to collective bargaining. We do not permit that our products are a result of dishonorable exploitation. No one who works for us or with us shall incur any psychological or physical damage.

In addition to observing applicable national and international laws and regulations, our compliance regulations, which are defined by the idea of integrity, govern the framework of our daily activities during procurement. We also set enterprise-wide standards for procurement to address our responsibilities regarding ecological, social and economic commitments. We have defined our procurement responsibility according to our sustainability guidelines (see Chapter I.1.1) in our enterprise-wide applicable procurement guidelines, procedures and in the Code of Conduct for suppliers, primarily as a stipulation for our suppliers and employees, who participate in the procurement process, to apply them in their daily work activities.

To secure these guidelines and regulations in our regular work procedures, we work closely with our internal revision in our procurement. Furthermore, according to ISO 22000 and FSSC 22000, our procurement department is annually audited by the TÜV Nord as well as auditors charged with auditing our balance sheet.

In the following, we demonstrate how we pursue the sustainable, positive economic development with responsible work conditions and protection of our environment in cooperation with our suppliers and in accordance with our "sustainable supplier management".

III.1 Sustainable Supplier Management

Our Suppliers Are a Crucial Component in Securing Our Sustainable Enterprise Portfolio

The disregard of our social and ecological standards by our suppliers could harm their employees or the environment. We would like to reliably eliminate this type of harm from our supply chain. With our sustainable supplier management, we commit our suppliers to adhere to our relevant sustainability criteria.

The main goal of this relationship management with our suppliers is a synergistic cooperation. We would like to identify suppliers who are most qualified and strengthen the ties with them to secure our joint sustainability performances and cooperate in the optimization of the value-added chain. The selected suppliers are supported by our extensive expertise regarding procurement of goods, product innovations and product processes. In the following, we will introduce five steps how we pragmatically achieve sustainability in our supply chain and reach our goals in procurement:

The five steps of our sustainable supplier management

1. Supplier Search

The process of securing and developing responsible supplier behavior begins with a search for qualified suppliers. We have introduced a standardized scoring model depending on the procurement goods segment that links the relevant expectations of our stakeholder to our procurement process. During the procurement process, our buyers work with the relevant specialists from different departments of our brewery to address the collection, analysis, evaluation and integration of our multi-faceted expectations aimed at our suppliers (see also Chapter I.2.1). As evaluation criteria for the suitability of potential suppliers, this scoring model includes our "conventional" economic requirements as well as the above mentioned qualitative and environmental aspects, plus our socially responsible demands.

Furthermore, as an important enterprise in the German Sauerland region, we try to contribute to the growth of the region by ordering from local suppliers if at all possible. This criterion of securing regional jobs and wealth is also part of the comprehensive assessment in our scoring model during our supplier search. So far, a scarcity of raw ingredients has not affected our procurement in any significant way, but as a large buyer we cannot solely buy within the region. For instance, for the procurement of hops and malt, we are dependent on suppliers from regions where these natural resources are produced (see page 59/60).

Thanks to our scoring system, we can perform an initial assessment during a first market screening of potential suppliers as part of a systematic collection of supplier data.

2. Supplier Evaluation

Checking the compliance with required criteria by our significant suppliers and, if applicable, their pre-suppliers, represents a continuous, regular component of our sustainable supplier management. After an initial assessment based on the scoring model by the procurement team, and even before a new supplier relationship is initiated, an audit by our experts is conducted. Here, we check compliance concerning the social minimum standard in accordance with our general procurement guidelines. Then, a pre-sampling (including monitoring systems, incoming goods check in our state-of-the-art lab, on-site checks), and test production follows all the way to the evaluation of serial production with the results documented in the scoring model. As a direct member of the German Brewers' Association (Deutscher Brauer-Bund), we engage several monitoring systems for ensuring compliance with extensive food safety laws in the area of agricultural pollutants.

The continuous audits of our main suppliers are performed in defined intervals, usually every two to three years. Afterwards, the audit logs are forwarded to the supplier and, depending on the results, systematically assessed for possible improvements. We support our potential as well as our established suppliers in their efforts to close the gap regarding our requirements with concrete measures if necessary. However, in case our listed requirements (see page 51 ff.) are not fulfilled within a stipulated time period, we reserve the right to dissolve existing supply contracts or decide not to sign contracts with new suppliers, respectively. This provides us with an effective tool for early detection of deficient performances and timely identification of adequate preventive measures in case of social or ecological grievances or even supplier scandals. We also pursue the objective to secure a sustainable and transparent purchasing decision until awarding of the contract.

Goal: Starting 2014, a continuously developed Code of Conduct will be used for all significant suppliers.

To monitor our social and ecological requirements during procurement of advertising media from Asia, we have used, since 2010, our Code of Conduct for Suppliers. Hereby, we commit these suppliers via standardized contracts to the fulfillment of our concrete sustainability demands. And we gain a measurable foundation to identify weak spots or target gaps in the performances of our suppliers and to improve them if necessary. To secure the compliance with our requirements by our Asian suppliers even more rigorously, we initiated on-site quality audits by independent quality assurance companies (e.g. Intertek, SGS Control, TÜV, Bureau Veritas and Asia Control).

Due to political structures and legal systems, we see the danger of human rights violations primarily in countries outside of Europe and North America.

Besides our advertisement materials from Asia, we do not procure any raw materials that do not grow in our local region from these countries. Grapefruits and lemons for our Radler beverages are obtained as natural fruit juice concentrates directly from their producing countries in South America and Africa thereby reducing transport emissions and costs. With these remote, significant suppliers, we also apply our regular high standards and control measures. During the reporting period, no incidents have been reported regarding our suppliers, which would prevent the start of a supplier relationship or terminate an existing relationship.

In our local markets, the trust in our significant agricultural suppliers has been confirmed by our many, long-standing contacts (see chapter III.2) In light of recent scandals in the food industry, however, we plan to further develop our Code of Conduct in even more detail analogous to the already referenced international standards. It is our goal to include the monitoring of pre-suppliers in even more detailed ways and, starting in 2014, to obligatorily apply these controls across all significant suppliers, even in our local markets. With these steps, we would like to engage even more significantly in our task to consistently ensure the principle of company responsibility in our supply chain and to further apply it as a crucial economic tool for social and environmental improvements in the regions of our suppliers.

3. Supplier Selection

On the basis of this comprehensive supplier assessment, we undertake as part of a transparent process a comparison of suppliers to prioritize the most suitable suppliers. Hereby, we create a total cost overview as a comparison benchmark for those shortlisted suppliers based on the scoring model as well as our already existing suppliers. Additionally, we also consider in our evaluation the sustainability reporting of potential suppliers and address this issue in regular supplier talks. Thus, we link the social and environmental selection with the optimized selection by considering cost factors of the most suitable suppliers and ensuring in this standardized format the objective selection of our first-rate suppliers.

4. Supplier Development

In case a supplier does not completely fulfill our sustainability criteria, we will ask him to first initiate appropriate improvement measures and then to permanently implement this improved sustainability approach. Here, we pursue the goal of continuously monitoring and if necessary increasing the performance level of our suppliers. At the same time, we guard against any non-compliance by our suppliers. We have developed appropriate measures in partnership with our suppliers, always with the objective to accept them afterwards in our pool of suppliers. Should a supplier, however, not fulfill our sustainability requirements after the appropriate development of measures, we will no longer consider him for our orders.

5. Supplier Integration

In accordance with our economic planning, we consequently pursue securing our ecological and social commitments. Long-term master contracts with our selected suppliers provide us with the security of innovation potentials as well as future material and technology developments. We count on building trust as part of our long-term supplier relationships, to learn from one another, and to work together in an innovative and efficient way towards our goal to produce the best beers. Our suppliers are experts in the area of the relevant pre-products. Here are two examples: Already in 1972, we were among the very first breweries who marketed the 5 liter draft kegs which were developed by today's Huber Packaging Group. In 1998, in close cooperation we introduced the original party keg with integrated tap as the first and exclusive vendor, helping it to lasting success. Furthermore, we created together with our glass supplier Rastal and its former chief designer Hermann Hoffmann a significant glass innovation in the German beer market in the form of the Warsteiner tulip, which allowed us in the 1970s to effectively support our effort to launch the category of premium pilsener beers by making beer socially acceptable among a wide segment of society.

With our selected suppliers, we often sign multi-year agreements, usually with a duration of three to five years. This makes us a reliable partner for our agricultural suppliers. We spread responsible demands across our supply-chain, and at the same time secure a long-term compliance with our high Warsteiner quality standards.

Thomas Druivenga, CEO Mälzerei Avangard

"Sustainable supplier relationships with a long-term business relationship translate into planning security for Warsteiner. They also secure our business development. Furthermore, they form a solid foundation for a joint, sustainable quality and supply management."

Our Procurement Begins with Compliance with German Beer Purity Law of 1516

In the following, we will demonstrate our high demands and their implementation in our responsible procurement by using our most significant supply goods as examples – the raw ingredients for the Warsteiner beers. For a comprehensive overview of all significant supply goods as well as the discussion about the ecological impact of using them in our value-added process, see Chapter IV.

Water

Information about the acquisition of the main ingredients of our beers, our particularly soft brew water, is described in detail in Chapter II.3.

Malt

Malt, our second-most important raw ingredient with regards to volume, comes mostly from malt companies within a radius of approximately 75 miles (120 km) of the Warsteiner Brewery. By signing multi-year contracts, we contribute to the strengthening of our local region while reducing transportation. We exclusively use malts that are produced with the finest, dual-line summer brew barley. Our malt suppliers use mostly brew barley from German fields, but additionally, we also procure malt produced with brew barley from the French Champagne region and from Denmark. For the actual delivery of the malt, we regularly used the railways during the reporting period, which are of high logistic importance – efficient and low in emissions (for more details, see Chapter VI "The Warsteiner Railway Concept").

The pre-selection and auditing of our malt producers with the premise of preserving the environment, and supported by extensive quality analyses, form the foundation of the consistently high quality of our Warsteiner beers. Our very extensive quality agreements signed with our suppliers, specify in addition to the barley types accepted by us, all important characteristics that are significant for a high-quality brew malt, e.g. water content, extract content, protein content, amino acid content for yeast nutrition, color, but also DMS-content as well as the categorical exclusion of genetic engineering. Compliance with this specification is continuously monitored in our own state-of-the-art malt laboratories and in the central laboratory; every time malt is delivered, it is first sampled for testing. We do not release any delivery for unloading that has not passed our sampling according to the criteria of our acceptance testing. The cleanliness condition of the relevant carrier is another concern for us, and we will refuse deliveries that are delivered in unhygienic, unsanitary transportations. As a brewery that produces food, we have high standards concerning our responsibility for the health and safety of our customers.

International monitoring system for testing the food safety

As a direct member of the German Brewer Association (Deutscher Brauer-Bund), we use several monitoring systems for ensuring the compliance with far-reaching food regulations concerning pollutants. For instance, the malt monitoring represents a very tight net of controls by which German and international malt producers who supply German member breweries with malt, are randomly selected at the time of delivery for tests regarding mycotoxins, heavy metals and pesticides. The results are collected in a database and made available to us as a member brewery. Via an established warning system, the delivered breweries, the affected malt producer and, if necessary, other breweries that have received deliveries are immediately informed by the appropriate food inspection authorities.

Systematic entry controls of all delivery batches

However, such a case has not yet occurred thanks to the extensive control mechanisms which are already in effect at an earlier stage at the producer level. An additionally established monitoring system by the German Malt Producer Association (Deutscher Mälzerbund) also includes testing of unprocessed grains according to the above mentioned parameters. We also receive those results, which provide us with a comprehensive overview at our fingertips of the status quo in the European grain producing regions and at the malt producers.

Hops

Although the raw ingredient hops only represents the smallest component in our beers, we place the highest value on the qualitative properties of this beer spice. Hops come from a dioecious, climbing plant from the hemp family. However, it does not belong to the Cannabis-type of hemp, but forms its own Humulus-type hops. For brewing, we only use the female flowers of the plant (hop cones) of the German Siegel-hops from the Bavarian hops producing region Hallertau. This region has the ideal climate and soil conditions for top-quality hops production.

Control for reduction of pesticides by special monitoring

With supplier agreements signed for up to five years, we provide our suppliers (farmers and processors) as well as ourselves with a reliable planning security, whereby we place a great value on the cooperative, ecological and socially-just production: According to our high quality requirements, the use of agricultural pesticides is reduced to an absolute minimum with the help of an early warning system that is operated by the Society for Hops Research (Gesellschaft für Hopfenforschung) in close relationship with the Bavarian Office for Agriculture (Bayerisches Amt für Landwirtschaft) informing hops farmers about increased disease pressure.

Comprehensive and consistent pollutant monitoring helps to ensure that our hops suppliers only use sprays and fertilizers within legal limits and adhere to the safety thresholds according to the Maximum Residue Level Directive (Rückstandshöchstmengenverordnung). Immediately following the hops harvest, our experienced brew masters travel directly on-site to the Hallertau region to get a first-hand impression of the qualities of the year's harvest. Our hops dealers, with whom we have cooperated for decades in trusting relationships, send raw hop samples to our research laboratory, where the samples are qualitatively and sensorily evaluated and assessed. This assessment provides the deciding factor which raw hops we purchase and which ones we reject. In parallel, an accredited test laboratory checks a large amount of hops samples for compliance with the Maximum Residue Level Directive. With this approach, we consequently eliminate any bottlenecks during hops delivery and prevent subsequent hops purchases on the spot market, which would make any pre-testing of the hops deliveries impossible.

After sealing the freight with the hops seal of the relevant seal region, our hops are transported to certified hops processing plants in Bavaria, where under the supervision of our critical brew masters the hops are converted to pellets and then in a closed system processed to hops extract. In a unique and environmentally friendly way, our hops extracts are not filled in one-way containers as it is conventionally done, but in our own reusable hops containers which can be reused as often as desired. Just like the raw hops, the processed hops products are sealed by the relevant sealing region and receive a sealed certificate. This prevents an accidental mix-up of our raw hops batches. Of course, we could just directly purchase hops extract, but we gladly undertake this extensive effort to go through assessment, selection and control during processing to ensure our quality standards.

Natural Juices

For our natural beer mix beverages, Warsteiner Radler Lemon Natural, Warsteiner Radler Grapefruit Natural, and non-alcoholic Warsteiner Radler Natural, we use natural-pure lemon and grapefruit juice, respectively. We do not use any artificial substitutes. The juices are delivered as deep-frozen concentrates, since transportation in a non-concentrated format would not be economically and ecologically responsible considering the sizable amounts coming from the farming regions in South-America and Africa.

Trading Units, Packaging, Additional Materials and Energies

For the procurement of our trading units (bottles, cases, cans and kegs), packaging (paper, card board, foils, palettes) and other materials (e.g. crown cap, labels, glues), we are committed and request the same from our suppliers to comply with the Special Technical Delivery and Procurement Requirements of the Testing and Teaching Institution for Brewery in Berlin (Spezielle Technische Liefer- und Bezugsbedingungen der Versuchs- und Lehranstalt für Brauerei in Berlin e.V. (VLB), s. https://www.vlb-berlin. org/fmv/stlb).

These requirements were developed in conjunction with several industry associations and representatives from relevant supplier industries as well as in cooperation with the packaging test center of the Testing and Teaching Institution for Breweries regarding beverage packaging. They form our minimum requirements for our environmentally friendly procurement conditions that are optimized for recycling and returnables regarding trading units, packaging and materials. With our understanding of integrity, we further expand these requirements, particularly with regards to ecological aspects, to be able to address our high demands even more effectively (see Chapter IV.2.2 and VII).

For many years now, we favor the multi-use, returnable system. Based on the core idea of multi-usability, we already consider during the selection of our materials their environmentally-friendly production, their environmentally-friendly application (longevity, efficient exchange capability) as well as their recyclable capacity at the end of their use. Chapter VII details our comprehensive commitments and treatments of used materials in the multi-use system as well as our, if at all possible, environmentally-preserving consumption of materials in the one-way system abroad.

In the following chapter, we introduce the use of our ingredients, materials and energies, and their careful refining during the brewing process of our Warsteiner beers.

IV PRODUCTION

Our Understanding of Sustainability Across the Entire Brewing Process

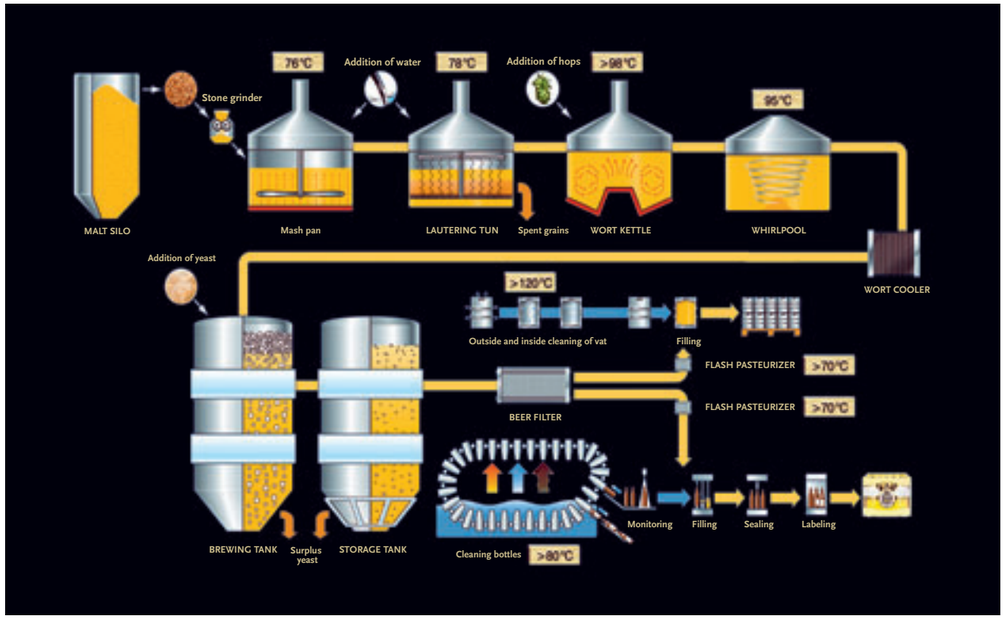
“ The brewing process is the foundation of our business activity. Between the brewhouse and the bottling plant, the reward for our intense efforts to achieve the highest quality and purity is created – our Warsteiner beers. Essentially unchanged for centuries, we successfully optimized the relevant processes in the past decades, ranging from the use of raw ingredients to required energy quantities to waste production. Our continuous investments in technological innovations play a central role. In our efforts, we cooperate with the leading scientists in the field of brewing. Due to these initiatives, the Warsteiner Brewery in the Waldpark belongs to the most modern breweries in Europe. ”

Ulrich Brendel, Technical Director,
Warsteiner Brewery

IV.1 The Brewing Process

How Our Beers Are Made

All our beers are traditionally produced with our 260 years of brewing experience and passion in accordance with the German Purity Law. The types of raw ingredients that we use for brewing beer are clearly and exclusively defined here: Water, malt (malted cereal), hops and its products (e.g. hop extract) as well as yeast. For more details regarding our raw ingredients, see Chapter III.2). In the following, we will illustrate the refinement of these ingredients as part of our brewing process.



IV.1.1 The Brewhouse

The Foundation for Our Beers Is Created in the “Heart of our Brewery”

In our state-of the art brewhouse, the so-called wort is prepared according to recipes handed down for generations. Here, we exclusively use the most modern technologies to achieve our consistently high product quality while preserving resources.

All processes take place in hermetically sealed containers to ensure as little heat loss as possible. Additionally, we go to great lengths to keep oxygen out in the brewhouse. During the wort and beer production, any type of oxidation in the raw ingredients would negatively impact the attributes of the beer that determine its quality. To avoid any possible oxygen influx, all containers in the brewhouse are systematically exposed to carbon dioxide at exactly regulated time intervals. We use climate-neutral carbon dioxide (CO_2), which was initially assimilated by the barley during the growing phase in the field and then contained by us during fermentation.

Use of climate neutral carbon dioxide (CO_2)

Grinding and Mashing

The first step of brewing beer consists of carefully grinding barley malt. In grinding mills, the barley kernels are milled in batches of different sizes. Later in the production process, the used barley spelt serves as the bottom filter layer in the straining kettle.

In the mashing kettle, the malt grist is mixed with our exceptionally soft brew water. Next, the created mash will rest at certain temperatures, which lets the starch in the malt convert into sugar with the help of natural enzymes created by the malting process in the barley kernels. This process is called saccharification. Later in the brewing tank, the malt sugar (maltose) is converted by the yeast into alcohol and carbonation. Heating jackets filled with hot water are lowered into the mashing kettle to ensure careful heating of the mash up to the necessary temperatures.

The necessary heat comes from our two gas-operated block heat power plants, which also guarantee the coverage of the basic load of our power requirement. Both block heat power plants deliver a total output of 2.3 Megawatt of high energy, offering more overall resource preserving efficiency than the conventional combination of local heat and central power plant. The waste heat that occurs during power generation is directly used in our brewery. This type of power generation saves approximately 35 % of our primary electricity (see also Chapter IV.2.3).

The great expertise of our brew masters allows us to swiftly react to natural fluctuations in the raw ingredients. For instance, these fluctuations manifest themselves in differences depending on type, vintage and origin in the extract content as well as in the consistency of the extract, and the degree of natural enzymes in the brew malt. With the help of lab results gathered at an earlier step and then again during the mash process, we notice these differences right away and are able to immediately adjust the rest times and temperatures during mashing. This ability to quickly react thanks to consistent and timely monitoring and controlling of all our process parameters ensures our excellent product quality at an exceptionally high consistency.

The complete saccharification of the starch is verified by tests with an iodine solution. In case this process is still incomplete, the test shows a blue coloration, and the saccharification rest must be extended. If no coloration is visible, the mash is ready and can be pumped in the lautering tun.

Lautering

In the lautering tun, the insoluble elements of the mash are separated. The lautering tun has a false bottom, whereby the upper bottom has countless slits to catch the spelt once the mash is poured in the kettle.

The insoluble particles get finer from the bottom up. This creates a natural filter bed allowing the mash to filter itself. The filtered fluid with the liquefied malt sugar and other water soluble components is called lauter wort, and its next station is the wort kettle. During this filter process, we take particular care that the lauter wort is well cleared and as free of turbidity constituents (cloudiness) as possible. Our uniquely soft brew water is partially responsible that the wort gets its brilliant, golden yellow color. Brew water that is too hard can cause too much extraction of tanning agents from the barley spelt, which in turn create a scratchy, lingering bitterness and greater color intensity in the beer. The particular characteristic of a carefully brewed, high quality beer in the pilsener tradition is its brilliant crystal clear color – the visual recognition feature of the Warsteiner Premium Pilsener.

Uniquely soft brew water for our high quality Warsteiner brewing method – golden yellow and crystal clear.

After sparging the soluble components with hot sparge water in the lauter process and draining the remaining lauter wort, the insoluble components remain at the upper lauter bottom. They are called brewer's grains and are highly sought after by farmers, thus finding their way back into agriculture as a natural, high quality animal feed with high carbohydrate and protein contents. We produce our brewer's grains in strict accordance with the Q&S initiative (Quality and Safety from Farm to Shop) and are a certified system member (see also www.q-s.de). Our feed production process is subject to independent testing in the form of annual audits by the certification bodies.

Certified reuse of the brewer's grains as animal feed.

Wort Boiling and Hot Trub Separation

The next step in preparing the beer wort is boiling the wort in the wort kettle. But first, the lauter wort is been pumped via the lauter wort heater in the kettle. According to the manufacturer's specifications, this heater consists of the largest plate heat exchanger in Europe and gets its energy required for heating the wort from the waste heat of our block heat power plant, the same way the mash is prepared. The heat exchanger includes over 449 plates with a total transfer area of 684 m^2, i.e. the area of 3.5 tennis courts, with a thermal capacity of 6,800 kW. The volume flow heating the lauter wort is approximately 350 m^3/h.

Wort boiling with block heat power plant and energy-reusing system

Initially, the wort is heated in the wort kettle to boiling temperature with the help of an external tubular bundle boiler that operates with live steam. Shortly before reaching boiling temperature, a second external boiler (Brüdenkocher) starts to heat up, which keeps the wort at boiling temperature. This second boiler is heated by first extracting the water steam rising from the kettle and then condensing the vapor with the help of a two-phase electro-mechanical vapor compressor. This process increases the heat content in the vapor, which efficiently maintains the boiling temperature in the second external boiler by only using electric power coming from the block heat power plant. The permanent flow in the external boilers is sustained by pumps that are installed in the wort kettles and help circulating the wort with a volume flow of approximately 1,500 m^3/h from the boilers back into the kettles. The block heat power plant also supplies the necessary electric energy for operating these large pumps. Altogether, we have three wort kettles available, so-called whirlpool kettles, which are heated by two independent external boiler systems. Moreover, this state-of-the-art energy-recycling system ensures that the created water vapor is almost completely condensed in the external vapor compressor and can be used as hot pre-rinse water for cleaning purposes. With this condensation, the immission and emission of brewery-typical odors inside and outside the brewery are reduced to a minimum. Odors are usually understood as emissions that consist of aromatic hydrocarbon compounds. Therefore, visitors, employees or abutters of our brewery notice this typical, often considerable "brewery odor" only to a very limited extent.

During the wort boiling, we optimally adjust the temperature level with regards to the combination of raw ingredients and boiling time. While boiling, we add the aroma and bitter hops as well as the refined products (i.e. hop extract). The transformation of the very poorly water-soluble native hop bitter acids (alpha acids) is achieved in accordance with the German Purity Law exclusively through wort boiling. Hereby, the amount of protein in the malt (approximately 10 %) is reduced to avoid any cloudiness of the beer later on. Additionally, the boiling eliminates natural compounds resulting from the barley malt, in particular the sulfurous dimethyl sulfide created during heating. Furthermore, the boiling process also sterilizes the wort.

After boiling, the entire hot wort is put into rotation in the combined whirlpool kettle. By slowly adding the hot, circulating wort and carefully adjusting the pump capacity, a specific rotation speed is set, whose mechanical flow characteristics are calculated according to the container dimensions. Due to the centripetal force and natural sedimentation, any compounds that are flocculated during boiling will collect at the bottom and form the so-called trub cone which primarily consists of coagulated protein.

Temperature level optimally adjusted to the compositiono f raw ingredients and boiling time

After a specific rest time, the hot wort is drained through a side connection at the whirlpool kettle where the optimally cleared wort is located and moved to the wort cooler. At this point, the concentration of soluble components in the wort (about 2/3 of the sugar that can be fermented by the brewer's yeast) defines the so-called original gravity of the wort with regards to the produced beer. The original gravity of the wort is measured in grams per 100 grams (= ° Plato) and essentially defines the "strength" of the beer. This value is used in Germany as a measurement for beer taxation. The deposited hot trub remains in the container and is added to the brewer's grain as high-quality animal feed (see above) after the wort extraction is completed.

IV.1.2 The Cold Storage

Further Processing in the Cold Storage Continues Seamlessly

The produced hot wort has to be cooled down from approximately 98 °C to the so-called pitching temperature to avoid destroying the yeast that is added immediately afterwards to the wort.

Wort Cooling

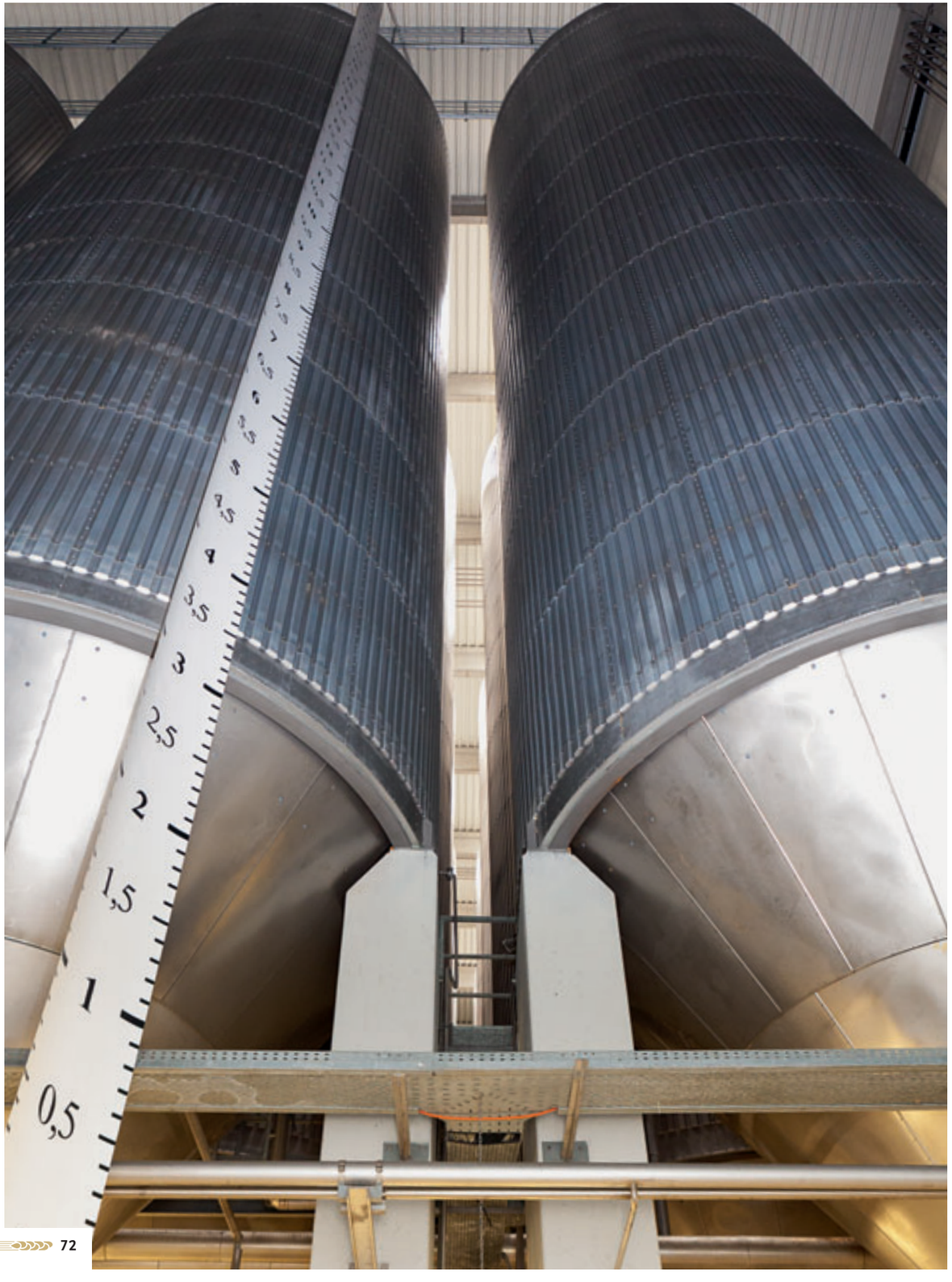
The first step in cooling the hot wort occurs in the large plate heat exchangers, where via cross-flow the cold brew water is heated to approximately 80 °C, so that it can be made again available for “mashing” and “lautering” (see page 66 ff). The heat exchanger achieves a high efficiency with very little loss of heat and energy. Directly afterwards, the pre-cooled wort is cooled in another heat exchanger to the exact desired temperature, so that in the next step our proprietarily cultured and through several selection processes specified Warsteiner yeast can be added.

The bottom-fermenting Warsteiner yeast strain is unique and has been cultured for generations. This superior fermenting yeast is largely responsible for the characteristic flavor of our beer. However, not only the yeast strain itself, but also the preservation of the yeast quality, that is so typical for our Warsteiner beer, is of utmost importance. We culture our yeast in regular intervals in our laboratories in so-called pure cultivation, and then replace the yeast used in production with a new generation.

Energy-efficient cooling via plate heat exchangers and heat recycling throughout the brewing process

Adding Yeast and Wort Aeration

The yeast is added to the wort via a special measuring device, which allows us to consistently add the exact necessary amount of yeast cells to the wort. This ensures that the fermentation takes place with the same quality and in the same time frame across all tanks, maintaining taste and aroma components (e.g. ester) at a consistently high product quality. Directly afterwards, the wort is aerated with sterile air to allow for the yeast cells to proliferate. Next, the wort continues to the fermentation tanks.



IV.1.3 Fermentation

The First Stop in the Actual Beer Production is the Fermentation Tanks

With an impressive height of net 20 m and a diameter of 6 m, each fermentation tank can hold a net content of 4,200 hectoliter (hl). Here the fermentable sugars that were converted from starch in the brewhouse are metabolized primarily into alcohol (ethanol) and carbon dioxide at relatively low temperatures. The heat that is generated by the fermentation is diverted via the cooling zones attached to the fermentation tanks. By carefully adding yeast and aerating the wort, the fermentation occurs very evenly with regards to the energy needed for cooling. Current peaks are effectively minimized, and the energy consumption is kept at the lowest possible level.

The amount of carbon dioxide created during fermentation is greater than what we will eventually need for our beers. With a catch-and-recycle system, we add the already climate neutral excess carbon dioxide to different processes that occur without oxygen (e.g. during bottling).

After about seven days, the fermentation is completed, and the yeast has settled underneath the beer in our cylindro-conical fermentation tanks (bottom-fermented brewing). There, it will be removed and stored for recycling in our yeast tanks. Because the yeast cells have multiplied before fermentation, a significant portion of excess yeast is created. This excess yeast is also a preferred animal feed, similar to the brewer's grains. Furthermore, the walls of the yeast cell are used to produce animal feed supplements, which today make it possible to avoid preventive administration of antibiotics in feed lot operations. Furthermore, our beer yeast is increasingly used by specialized purchasers for human consumption (e.g. natural yeast extract as a substitute for synthetic flavor enhancers) and as nutrition supplements to fortify the immune system (e.g. Beta-D-(1,3)-(1,6)-Glucan).

Reuse of the climate neutral excess carbon dioxide. Yeast as high quality nutrition for humans and animals

Before entering the cold maturation phase, the immature or green beer is carefully checked in the laboratory to ensure that its quality indeed meets our high expectations. In our central laboratory, we employ 22 employees in quality assurance and 9 employees in research & development including special analytics, who perform daily extensive quality controls: The beer analysis measures alcohol and original wort gravity, pH value, conductivity, proportion of unfermented extract, beer color and bitterness values. With special analytics (e.g. gas chromatography), we check the degree of free dimethyl sulfide in each beer batch (see p. 68, "Boiling the Wort"). Additionally, in Warstein the beer in every tank is tasted by specially trained staff before it is released for further processing.

Extensive quality control in the state-of-the-art Warsteiner laboratory

IV.1.4 Cold Maturation and Storage

Our Beer Matures in Storage for About Three Weeks

Directly following fermentation, the green beer is pumped via deep refrigeration into cold storage tanks which have a temperature below 0 °C. Any remaining yeast and proteins (sediments) settle during the three weeks of storage in the cone of the tank and can be removed analogous to the fermentation steps (see above) and added to the excess yeast prior to the removal of the beer. Our storage tanks are located in well insulated facilities and are cooled via inside air. Additional lowering of the beer temperature in the tanks is not necessary, since the optimal storage temperature has already been reached during transfer with the help of the deep refrigerators, which are state-of-the-art energy-saving tube bundle heat exchangers. We only need to cool the temperature inside the storage facility to compensate for possible loss of coldness which cannot be completely eliminated despite excellent insulation.

Highly energy-efficient tube bundle heat exchanger for cooling the green beer

IV.1.5 Filtration

Filtration Removes Remaining Yeast Cells and Turbidity Particles

Environmentally friendly and highly effective beer filter

Our goal is to produce an absolutely crystal clear, brilliant beer that does not turn cloudy even after some storage time – because we also savor our beer with our eyes!

The last step in the beer production is the filtration through 1 m^2 large filter membranes consisting mainly of cellulose fibers that are tensioned between two perforated steel plates equipped with channels.

The entire filter area in the two identical filter lines with a total number of 426 filter layers represents 426 m^2, and has a capacity of up to 600 hl/h. The filter layers are made out of 100 % organic cellulose fibers from sustainably harvested wood, mostly from Denmark, which also can be very easily composted.

Another advantage of these filter layers is their non-drip quality, i.e. beer cannot leak from these layers. Additional benefits compared to regular mineral filter layers are the 50 % less rinse water loss before and after sterilizing the filter layers and a 20 % higher capacity. Finally, the filtered beer is stored in so-called pressurized tanks for subsequent bottling.

IV.1.6 Bottling

Our Products Are Bottled in Eight Highly Efficient Bottling Lines

Hygienic construction – simple cleaning with fewer detergents

Per day, we can fill up to 4.8 million bottles and almost 20,000 kegs (kegs with integrated sample tubes) with up to 50 l content. Small cans are filled at a rate of 55,000 cans/h. We also fill party cans, classic beer kegs and taps. All our filling and bottling processes occur in a virtually oxygen-free environment to avoid any type of oxidation in our products, ensuring the high product quality of our beers beyond the minimum shelf life. Hereby, we use our excess carbon dioxide that was generated during the fermentation process (see p. 73) to remove any oxygen from the cleaned receptacles. Lastly, with the help of special monitoring devices, every receptacle is checked to guarantee that it is correctly filled and sealed. Already during the design and implementation of the machines that come into contact with our products, we take great care of the hygienic construction of the building components. All components that touch our products consist of smooth, robust stainless steel or food grade plastics (e.g. sealant materials). This ensures simple cleaning with the least amount of cleaning detergents possible. Furthermore, cleaning agents are carefully procured regarding their environmental impact. For more information about our procedures to preserve our natural water resources, see Chapter IV.2.1.

IV.1.7 Labeling, Final Quality Control, Supplying

Our Labeling Machines Perform Additional Tests

State-of-the-art control and labeling machines guarantee the traceability of the product

After bottling, the receptacles are labeled (if necessary) and stamped with the production date and/or minimum shelf life before being further packaged or palletized. In the bottling facility, optical detections systems, which control the correct fill amount, provide another level of security by eliminating bottles that are incorrectly filled. With our state-of-the art labeling machines, we perform additional controls to ensure that all labels are properly affixed on the bottles and the dates are correct. Together with the dates, the coding of our products is exact to the minute and specific for each bottling machine. This allows us to trace our products within a very tight time grid. The correct fill amount in our beer barrel filling facility is controlled by weight with officially calibrated scales, while kegs are filled with officially calibrated machines measuring the exact volume.

All inks used for printing our labels and cardboard packaging are free of heavy metals. The same is true for our other packaging material as well as the actual papers and cardboards, and, of course, our returnable plastic cases. We only use inks without any substances listed in the exclusion list of CEPE (2007). This list identifies materials which are either very toxic (T+) or toxic (T) or classified as carcinogenic, mutagenic or toxic for reproduction in category 1 and 2.

IV.2 Our Handling of Natural Resources

260 Years of Experience Has Taught Us to Handle Natural Resources with Great Respect

Up to this point, we have provided you with a comprehensive overview of our brewing process. In the following, we will present our ecological, sustainable understanding, our goals as well as our methods and measures to accomplish them, which we use throughout the entire production process. Any added value is always linked to some environmental impact. This also applies to production of our beers despite state-of-the art technologies and procedures. To uncover further potentials for preserving our environment, we will analyze our mass, material and energy flow, our environmental impact as well as our ecological savings. As a mid-sized brewery with international brand recognition, we produce beverages of the highest quality and purity. The protection of the environment as well as our commitment to the public in the light of economic requirements is always at the center of our business activities.

To accomplish these objectives, we continuously invest in the most modern and innovative technologies and procedures, even when our actual brewing process remains unchanged for centuries with the same natural bio-chemical methods and reactions. To use as few resources as possible, we constantly improve our core processes as well as their supporting processes, and actively participate in essential research. We are proud that our brewery with its technical equipment and technological know-how of our employees belongs today to one of the most modern breweries in Europe and most likely in the world. These efforts allow us to achieve our very ambitious quality objectives while at the same time being able to offer our customers an exceptional taste experience with safe products.

Our Management Systems in the Brewery Process

In the following sections, we will illustrate how we systematically achieve our business and sustainability goals in the production area. After the detailed description of our management systems in Chapter I.2.3, you will learn here which management systems and methods are used in the production process.

- PDCA cycle (continuous improvement management)
- Quality management, ISO 9001
- Energy management, ISO 50001
- Food safety management, ISO 22000 and FSSC 22000
- Q&S Charter and GMP for animal feed safety
- Work and health protection management
- Concept for the prevention of incidents
- Risk management

In addition to our qualitative requirements, we pursue a quantitative goal of keeping the raw ingredients per hectoliter (hl) of distributed beer as low as possible by increasing our efficiencies. The careful handling of our natural resources represents for us a commitment based on ecological as well as economic reasons. With the help of key indicators, we constantly monitor in a transparent way the degree of utilization as well as loss across the entire brewing process. This approach ensures that the applied resources and valuable ingredients are used as completely as possible throughout the entire PDCA cycle.

We apply several systems that continuously measure, record and analyze practically 100 % online our flow patterns for materials and resources. In case of deviations from our specific nominal values, our on-site staff receives a relevant alert on their screens. Critical processes that require immediate action are automatically monitored and controlled by our control management system which reacts to incidents, e.g. an incorrectly closed valve, with a complete shutdown of all running processes. We use our Laboratory Information and Management System (LIMS) (see also Chapter V.1) to check, link, analyze, and assess the plausibility of the data reported by a particular process with those coming from the lab. Here, we instantly recognize even minimal qualitative and quantitative deviations and variations. At least once a day, these data analyses are performed by team members in charge of these processes to immediately coordinate and implement the necessary enhancements to secure the efficiency of our processes.

Ultra-modern, standardized control processes for maximum quality and minimum raw material input.

In monthly intervals, the data coming from the process management system, LIMS, and the energy database is consolidated in reports which are then discussed and evaluated by the managers in charge and compared to the target values that were agreed upon with the executive management.

Of course, we again follow the PDCA cycle, which – while closed in itself – has no beginning or end. Nothing is so good that it can't be improved!

" The quality of our raw materials and products is checked daily via several thousand samples by our lab as well as by external test institutes. With these wide-ranging analyses, we can guarantee a consistent maximum degree of product safety. "

Heinrich Bollmann, Head of the Chemical-Technical Lab and Analytics at the Warsteiner Brewery

Brew Academy for Research and Development – The “Little One” in the Big Brewery

In 2010 and 2011, a very special project was planned here in Warstein, which can surely be called a milestone in our 260 year old brewery history: Our research brewery which is called “Warsteiner Brew Academy for Research and Development.” Towards the end of 2011, we began operating this brewing facility which is housed in our production plant. With its configuration and equipment, this facility is unique worldwide and represents with approximately 1.5 million Euro a solid investment into the future.

In addition to the modules installed in the Warsteiner brewhouse, this research brewery also features highly innovative components and containers which are not yet part of the technological mainstream. Compared to the regular large Warsteiner brewhouse with a brew size of approximately 1,400 hl (cold beer wort), the brew size of the brew academy measures “only” 5 hl. The four cylindro-conical fermentation tanks function as combined fermentation, storage, and pressure tanks, and have a height of 10 m and a diameter of 0.8 m, actually quite close to the height of fermentation tanks installed in larger operations. According to the technical literature, however, the fermentation in tanks with these dimensions should not work properly. But the yeast does not care about theories, and fermentation takes place without any problems – an important discovery.

Our brew academy features a similar automation as our large brewery including the process management system called BrewMaxx by the ProLeit company. In comparison to the large operation, all containers, pipes and tanks feature a very tightly installed measuring technology, including flow meters, temperature gauges, pH-value and pressure transducers as well as highly precise cloudiness and density measuring devices. Of course, we not only measure, record and assess all material flows on the production side of the facility, but we also keep track of all in- and outgoing energy flows as well as the waste water from the research brewery.

The first task of the brew academy focused on brewing our flagship product Warsteiner Premium Verum in a reproducible way with the same sensory and analytical characteristics as the large production operation. The settings that were established during this task in the academy can be considered as the “zero status” or “baseline.” By now, our research brewery regularly operates according to continuously changing tasks, including efforts to reduce the usage of resources as well as testing innovative components that we hope will bring further quality improvements for our products. As a result, many decision criteria were already developed, which will be upscaled in our current large project “The Brewhouse of the Future.”

Another focus is on the development of new products. Before the brew academy was available, most of the product development was primarily performed in laboratories with small technical measurements, i.e. usually by hand producing a few liters. Upscaling to the real process regarding brew size with up to 1,400 hl proved to be extremely difficult. By simulating an authentic large operation in the test brewery, it is today possible to extensively test the behavior of new products in the real process and to tweak early on any necessary changes in the brew process.

The “little brewery” as a test center for innovations

However, in our brew academy, we also have the possibility to control all processes by hand, far away from automation. This is particularly helpful in the training of our brewers and supports the detailed illustration of fundamental questions regarding the complex brewing process.

Cooperation with Research Projects

With its direct membership in the German Brewer Association (Deutschen Brauer-Bund), the Warsteiner Brewery is also part of the Committee for Promoting Science of the German Brewery Industry (Wissenschaftsförderung der Deutschen Brauwirtschaft e.V. [WiFö]), which means that for every hectoliter beer sold by us, a research penny goes directly into WiFö's budget.

The funding of WiFö ensures the financial support of different research projects focusing on the product beer. Fortunately, since the WiFö is also a member of the Alliance Industry Research (Allianz Industrie Forschung [AIF]) which is financed by the Federal Ministry for Industry and Technology (Bundesministerium für Wirtschaft und Technologie [BMWi]), some financially very ambitious research projects can be realized. Several of these projects focus on resource savings, reduction of energy consumption, and reduction of CO_2 emission. Subsequently, key results from this research are implemented in the Warsteiner Brewery.

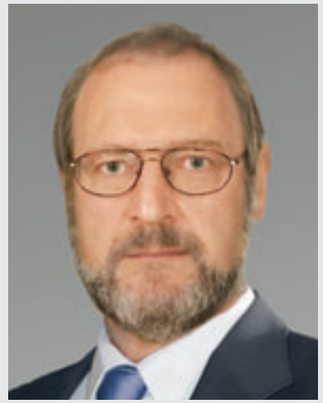
Examples of successfully concluded research initiatives are (see also www.wifoe.org):

- Model-based efficiency analysis tool for combined bottling and packaging facilities (LineMET)
- Anaerobe hydrolysis and methane formation of solid, liquid and pasty organic production residues from breweries
- Significance of specific characteristics of starch, enzymatic breakdown and identification of key indicators relevant in brew technology
- Combined material and energy management in the water systems of breweries with the help of information technology hybrids based on referenceP etri-nets

The Warsteiner Brewery is one of the first breweries nationwide that initiated an extensive measuring sequence of Total Organic Carbon (TOC emissions) from the brewhouse facility in cooperation with the German Brewer Association, which also closely cooperates with the German Federal Environmental Agency. The objective of this initiative focuses on developing a suitable measuring regulation for TOC to assess the emission behavior of German breweries with the goal to reduce TOC emissions in the medium term. The results were presented by the German Brewer Association to the German Federal Environmental Agency for approval by the German Länder-Committee.

With regard to our activities impacting the environment, we comply with the legal requirements as well as our own integrity objectives, which we develop in dialogue with our stakeholders (see Chapter I.2.1). No sanctions, fines, and other penalties due to violations of environmental regulations have been levied against the Warsteiner Brewery.

" The Warsteiner Brewery is one of the most modern and most innovative breweries in Europe. Especially the Warsteiner Brew Academy for Research and Development plays an important role towards improving the energy and resource efficiency with regards to brewing technology. "



Dr. Rudolf Michel, Director Technology – Research & Development, GEA Brewery Systems

Input-Output: How Do We Handle Resources, Materials and Energies?

The preservation of nature is of existential importance to us. As a producer of natural food products, we work in a symbiotic relationship with the public and make our living from nature. The preservation of nature and the prevention of pollution are therefore of existential importance for us. As part of this commitment, we focus closely on the characteristics of the substances, materials and energies that become part of our value-added-process and eventually exit this process in modified form.

The substances, materials and energies were already introduced at the beginning of our value-added-cycle in chapter III.2. In the following, we will analyze how their use by the Warsteiner Brewery affects the environment, and create transparency in an "Input-Output-Balance." We begin with a breakdown on the input side by used substances, materials and energies, and conclude with the "eco-balancing" of our usage, in particular when it comes to water, waste, energy, and emissions.

The Input for Our Value-Added-Process

As always, our use of input materials has an effect on the environment. To reduce any negative impact as much as possible, we continuously analyze our internal data sources and information systems, which deliver important reports and key indicators about our material flows.

Regular material flow analysis to maximize efficiency

At least every five years, we undergo a benchmark analysis of all our operating processes and data. Based on the data collected from our technical IT systems and databases as well as our inventory management system, our ecological and operating performance and efficiency are determined and presented in neutral terms. The consulting firm, who performs this benchmark analysis, uses a comprehensive database with values and best practice examples of comparable companies; a comparison analysis provides us with reference points concerning processes in which other companies operate more efficiently. These reports allow us to drill deeper into the analysis of individual areas and continuously work towards further improvement of our efficiency. Furthermore, in conjunction with the German Material Efficiency Agency (Deutschen Materialeffizienzagentur [demea], we conducted during the reporting period a potential analysis for improving the material efficiency, which was supported by the German Federal Ministry for Economics and Technology (Bundesministerium für Wirtschaft und Technologie [BMWi]).

The following input/output-balance shows the major material flows of our brewery. Here, all substances and materials are listed that are required for the production of our products as well as for the operation of our brewery. The data is based on measured values (e.g. water input meter) or information listed on the packaging slips of our suppliers. Energy sources (gas, electricity, diesel, gasoline) are not listed here, but described in detail in Chapter IV.2.3 under "Energy."

The fermentation carbon dioxide that is generated during the brewing process is completely used in the course of production and bottling. Since it is a closed circuit system, where the gained and used amounts are usually in balance, the amount of the gained carbon dioxide is not recorded. However, in case we cannot maintain this balance (e.g. during maintenance or repair work on particular machine components), we purchase certain amounts of carbon dioxide on demand (see table about material use).

Altogether our use of substances and material was constant during the reporting period, reflecting our overall consistent sales output. On the other hand, the use of non-alcoholic ingredients (in particular, concentrates of natural fruit juices) has significantly grown as the sales of our mix beverages have steadily increased since 2009.

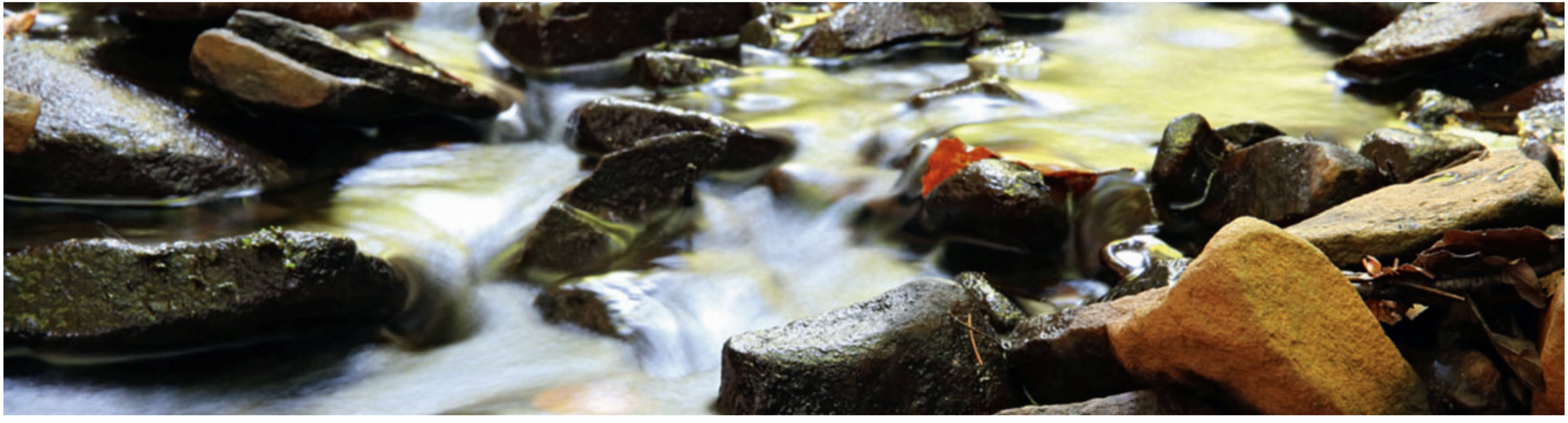
With regard to carbon dioxide, we usually do not require external purchases – which is one of our declared goals. However, there are situations (e.g. machine failure in the recycling plant or extreme time delays between produced or bottled amounts due to repair or maintenance work), which make additional purchases necessary. The use of labeling glue has significantly increased in 2011. Through extensive testing, we discovered that we need a certain minimum amount of glue to affix our labels to remain wrinkle free. The inconsistent use of returnable bottles is the result of actual availabilities of used glass in the returnable system as well as short-term sales peaks. For laboratory material, we spent approximately 1.5 million Euro in the reporting period.

Of course, on the output side of the material flow, we list our products which are available for pick-up in environmentally friendly returnable packaging. Our handling of these directly used substances, materials and energies as well as the "remaining" ones is discussed in the following.

OUR USE OF SUBSTANCES AND MATERIALS

	Unit	2008	2009	2010	2011	2012
Direct Material						
Drinking water[1]	m^3	1,146,191	1,107,211	1,101,473	986,230	1,005,427
Malt	t	46,937	47,304	48,904	44,645	47,112
Hops[2]	t	210	211	236	190	202
Non-alcoholic ingredients[3]	t	483	453	477	602	799
Carbon dioxide purchases	t	43.6	22.3	0	340,6	21.0
Crown caps	t	1,135	1,116	1,115	1,079	1,094
Nonreturnable bottles[4]	t	13,090	9,103	8,426	8,145	8,728
Returnable bottles[4]	t	3,150	1,366	4,790	3,930	2,616
Beer cans (incl. lids/tabs)[5]	t	1,383	1,138	1,428	1,236	1,254
Labeling glue[6]	t	139	120	123	207	219
Bottle labels[6]	t	1,328	1,353	1,268	1,363	1,367
Beverage cartons[7]	t	1,907	1,621	1,763	1,706	1,620
Palettes[8]	Stück	40,287	23,433	27,315	22,981	23,516
Foil[8]	t	49.0	45.7	40.2	40.8	44.5
Palette labels[8]	t	8.1	8.4	8.3	8.0	7.6
Strapping tape[8]	t	4.4	4.5	4.6	4.4	4.5
Non-renewable material						
Lubricants[9]	t	86	88	100	99	98
Filter aids[10]	t	294	241	373	288	305
Cleaning and disinfectants	t	3,148	2,615	2,469	2,494	2,339

[1] Water: The value includes the entire amount of water for our brewery, not just the amount used as an ingredient in our product. It also includes all cleaning water, etc.
[2] Hops: Listed in tons of raw hops
[3] Non-alcoholic ingredients: All flavorings, sugar, etc. necessary for the production of beer mix beverages
[4] Bottles: Weight of used non-returnable bottles as well as new returnables, which were introduced for improving the existing pool of returnables
[5] Beer cans: Weight of all beer cans (0.33 l, 0.5 l, 5 l) including lid/tab
[6] Labels and label glue: All labels as well as the glue for affixing labels on our bottles
[7] Cartons: Especially for packing the nonreturnable units, but also for production of convenience packaging (e.g. 6-packs), which are used in the returnable segment
[8] Palette, foils and strapping tapes: For production of secure transport packaging
[9] Lubricants: For operation of machinery
[10] Filter aids: Resources for beer filtration (e.g. filter layers)



Our Brew Water Is Sourced to a Large Extent from Our Proprietary Springs

Daphnias monitor our spring water quality

The Warsteiner spring water possesses several distinctive qualities which are instrumental in brewing our premium beers in the pilsener tradition. The water is exceptionally soft (with a total hardness of below 2 °dH), plus it has a low pH value of about 5.5 to 6 – the best conditions for brewing our brilliant golden pilsener. To permanently monitor our proprietary spring waters which we source in the nature park Arnsberger Forest, among others, from the ancient Kaiserquelle, we use a so-called daphnia toximeter. These water fleas or daphnias (Daphnia Magna Straus) are widely recognized as test organisms for environmental pollutants and monitor our most important ingredient in terms of volume: our brewing water. A partial flow of the filtered water is routed through the measuring chamber of the daphnia toximeter. This water contains the 2 to 6 mm large daphnias. With a complex digital image processing system, their swimming behavior is recorded and mathematically evaluated. Any conspicuous behavior triggers an alarm which automatically stops the water flow and alerts our 24/7 staff. The daphnias are bred by us. In order for them to thrive, a temperature unit ensures a consistent water temperature. They are fed with green algae, which we produce freshly in a fermenter. If too many water fleas populate the measuring chamber, the electronic monitoring system can no longer properly assess the swimming behavior, and an alarm is triggered. To avoid these false alarms, we only use juvenile fleas that cannot reproduce yet. The older daphnias are removed on a weekly basis and used for reproduction. In case too many daphnias are bred, the excess is relocated back into one of the ponds near the brewing water springs.

Even though our goal is to source the majority of our brewing water from our own springs – particularly because of its special quality (softness, low pH value), we reduce the withdrawal amount from these springs in the summer months when water demand is high while rainfall is typically low, to avoid drying out the ponds and tributaries around our spring areas. The input and output amounts of this important resource are constantly measured and recorded. Any additionally required water comes from the Aabach Dam, about 30 km away, where the water quality is also permanently monitored. As of 2012, we could reduce our total water consumption to approximately 3.46 hectoliter (hl) water per hectoliter beer, which is an exceptionally low value in the brew industry.

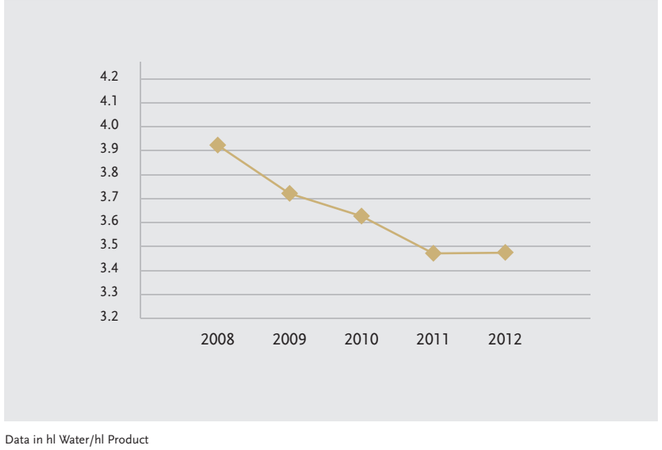
Great care is taken for the preservation of our spring water – only 3.43 hl water consumption per hl product

TOTAL WATER INTAKE LISTED BY SPRINGS

	2008	2009	2010	2011	2012
Proprietary springs	493,271	433,761	552,839	442,063	474,520
External procurement[1]	653,220	673,450	561,380	517,780	521,360
Amount[2]	**1,146,491**	**1,107,211**	**1,114,219**	**959,843**	**995,880**
Resulting in a specific use of hl water per hl product[3]**:**					
	3.92	**3.72**	**3.63**	**3.46**	**3.46**

[1] Drinking water from the near Aabach Dam as well as from public sources for use in applications not directly linked to product
[2] Data in cubic meter
[3] Total water consumption in relation to product amount

SPECIFIC WATER CONSUMPTION



Data in hl Water/hl Product

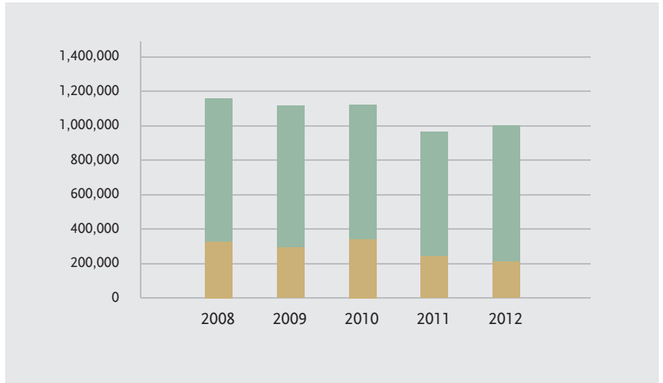
As described in Chapter II.3 in detail, our brew water comes from various springs and areas. We source our brew water both near the surface as well as from ground water.

	2008	2009	2010	2011	2012
Ground water	323,308	297,453	328,699	243,494	216,816
Surface water	823,183	809,758	785,520	716,349	779,064
Water total	**1,146,491**	**1,107,211**	**1,114,219**	**959,843**	**995,880**

Data in cubic meter. The treatment of rainwater on our brewery grounds is described in detail below.
Waste water from other organizations does not concern us.

With our location in close vicinity of the nature park Arnsberger Forest and our unwavering commitment to preserving the environment, the sustainable use of water resources is essential for our brewery. After all, we are producing food of the highest quality and purity whose main ingredient is water. To protect and preserve our water resources for the long term, our primary concern is to reduce our water use, because water that is not used does not require energy-intensive treatment such as waste water. The balancing act between compliance with hygienic requirements and efficient budgeting of this valuable resource water is our daily business.

SHARE OF GROUND WATER AND SURFACE WATER



Data in cubic meter ■ Ground water ■ Surface water

To avoid unnecessary water consumption during the production of our beers, in particular for cleaning purposes, we have implemented extensive measures. Similar to the energy topics, these measures are recorded, analyzed and evaluated in a list (see Chapter IV.2.3). Each investment in new facilities is scrutinized to ensure it fulfills the expectations of our stakeholders regarding water saving technology as well as meeting our own high standards. Furthermore, established processes are regularly tested to determine if a potentially even more efficient way may also guarantee the required cleaning effect, but with even less water. Besides reducing our water use, we also deploy measures to facilitate a reuse of water. The parameters for reusing water are in accordance with our high standards regarding product quality and hygiene. For instance, we only reuse unpolluted or at most very lightly polluted water for the initial pre-cleaning during the cleaning processes. To avoid any cleaning of additional piping and temporary storage in the central water treatment plant, the reuse of water only takes place at the location where it initially occurred. Some examples:

- Plant equipment, such as pipes, valves and filters must be flushed and sterilized with hot water after each alkaline or acidic cleaning to eliminate any microbiological contamination. Afterwards, the equipment is slowly cooled down by flushing it with cold water. The cooling water is caught and later reused for pre-cleaning of the containers in the brewhouse (e.g. mash kettle and lauter tuns). Annually, the total amount of fresh water saved by this practice is about 5,600 m³.
- In our KEG system, the KEG barrels (beer kegs with integrated tap) are cleaned inside and outside in several steps and eventually refilled. The hot cleaning water is used three times: We catch the used water of the last (very clean) main cleaning step (inside cleaning) and reuse it in the middle cleaning step (inside cleaning). This water is used for the third time to remove any dirt particles on the outside of the stainless steel barrels.

We try to keep the amount of waste water and its impact as low as possible, not just through the economical use of water, but also in particular through careful handling of the necessary detergents and disinfectants. But despite all saving and protective measures, a certain minimum amount of waste water is unavoidable.

Cleaning and Disinfecting

The cleaning and disinfecting of our containers and pipes always occurs in closed circuits (stack cleaning in place). All cleaning agents and disinfectants are for the most part collected again in storage tanks after their use. The cleaning agents and disinfectants are supplied as concentrates in large quantities, mostly in tanker trucks (e.g. sodium hydroxide solution) or reusable containers. When selecting our cleaning agents, we always consider their biodegradability. We only use cleaning agents without the complexing agents EDTA or NTA. In our bottling cleaning machines, we use mostly sodium hydroxide solution and, additionally, a small amount of an additive based on phosphoric acid to prevent the formation of water and lye stone. This additive fulfills the Detergents Regulation 648/2004/EG and is completely biodegradable.

Our most significant cleaning agents and disinfectants are (in descending order):

- Sodium hydroxide solution for cleaning of reusable bottles, tanks and pipes
- Nitric acid for cleaning of tanks and pipes
- Additives for cleaning of reusable bottles
- Peracetic acid for disinfecting tanks and pipes

After cleaning and disinfecting, the tanks and pipes are flushed with clear drinking water until there are no more detectable traces of cleaning and disinfecting agents. We check every cleaned tank and every pipe and document the results accordingly. The last rinsing water is collected, temporarily stored in tanks and reused for pre-rinsing of other tanks before the actual cleaning begins.

Our Biological Waste Treatment

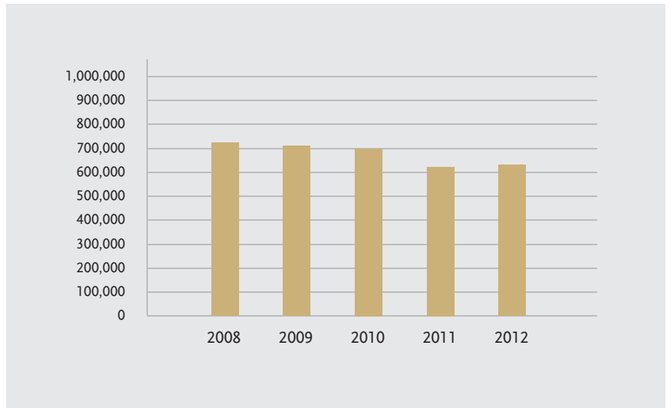
The individual production waste water as well as the sewage waste of our sanitary facilities is pre-cleaned in our own sewage treatment plant, in accordance with the discharge authorization issued by Soest County. Afterwards, the water is transported via a canal to the municipal sewage treatment plant for final cleaning. In the first step, the waste water is mechanically cleaned via two screen drums. The separated floating debris is properly disposed of.

Next, the pre-cleaned waste water is homogenized in a 3,700 m³ mixing and equalizing tank. This allows for balancing any volume fluctuations as well as the mixing of waste waters of different origins and contaminations. By infiltrating excess CO_2, the pH value is adjusted to ensure that the subsequent biological cleaning functions optimally. The water treatment plant is designed for waste water to run over cascades in free fall through up to nine tanks. With the influx of air oxygen and the help of aerobic micro-organisms, up to 80 % of the organic effluent component substances are degraded. The total volume of the plant is 17,119 m³. By damming up and lowering the waste water volume in the reservoirs, volume flow and waste load are evenly distributed across one week.

About half of the waste water that is treated in the municipal water treatment plant comes from our facilities, which necessitates a close cooperation with the operator for economic as well as ecological reasons. The municipal water treatment plant would not be able to clean untreated brewery waste water to meet the legally required thresholds.

Production-related peak loads of the brewery would lead to an impact load of the waste water biology in the municipal

WASTE WATER VOLUME



Data in cubic meter

WASTE WATER DISCHARGES INTO MUNICIPAL WATER TREATMENT PLANT

	2008	2009	2010	2011	2012
Waste water (in cubic meter)	728,122	705,727	691,780	620,980	631,034
COD (in tons)[1]	811	430	466	466	614

[1] The COD (chemical oxygen demand) is the uniform sum parameter for the pollution of our waste water with organic substances (e.g. sugar, ethanol, starch, protein, etc.)

NITROGEN AND PHOSPHOR CONTENTS OF OUR WASTE WATERS

	2008	2009	2010	2011	2012
Nitrogen	49,432	52,782	48,188	40,457	35,606
Phosphor	10,391	12,561	12,803	9,748	11,359

Data in kilogram per year; Contents in COD value; Calculation based on daily mixed samples.

facility which could damage the biology in the long-term (e.g. increased formation of "high load filamentous bacteria.") Through homogenization of the volume flow, the delivery pumps in the municipal facility do not have to be designed to accommodate short-term large volume flows; in general, oversized pumps run poorly in terms of energy efficiency in the lower delivery grade. Our pre-cleaned waste water is passed on to the municipal water treatment plant with so-called over-activated sludge. This sludge is drawn in the pretreatment phase of the facility and used in a digestion tower.

Treatment of Rainwater

Waste water and rainwater are separately routed and separately pretreated. The rainwater run-off from pavement and buildings (amounting to about 189,750 m^2) is centrally collected in a rainwater treatment tank and cleaned before it flows into the receiving water. In this always partially filled basin, any floating and sediment materials are retained. To protect the receiving water, the rainwater flow is continuously monitored by measuring its pH-value and conductivity. The rainwater treatment tank is equipped with an oil separator. In the event of an accident, the integrated measuring technology triggers the automated flow gate valve to close. Additionally, our safety concepts include the notification of our 24/7-staffed alarm center, so that exactly defined measures are immediately initiated.

For possible incidents (e.g. for extinguishing water retention), the rainwater treatment tank can store 1,043 m^3 in addition to the treatment volume. For discharge and for larger amounts, the possibility exists to pump the water in our proprietary water treatment plant. Once or twice a year, any sediment accumulated during cleaning is vacuumed by a certified waste disposal company and disposed of properly. The collected rainwater is not used, but instead routed to the receiving water via the rainwater treatment tank. By ensuring that no harmful substances, which may get flushed from our premises via the storm drains into the rainwater network, find their way into the receiving water, we are able to prevent any negative impact on the soil and ground water.

Water and Ground Protection

Due to the regular training of our employees, our company is recognized as a specialty firm for dealing with water-hazardous substances according to the German Water Management Act (Wasserhaushaltsgesetz [WHG]). The compliance with the requirements according to § 62 WHG is verified by the Technical Supervisory Association (Technischer Überwachungsverein [TÜV] Nord) every two years. A water protection representative regularly controls the compliance with regulations and provisions in the interest of water pollution control.

All water-hazardous materials are stored in tank depots equipped with collection trays and leakage detectors as well as in storage facilities with collection trays. The facilities are regularly checked by a specialist. All verifiable data are managed in a central database according to control date, control log and responsibilities.

At all locations on our premises where waste water containing mineral oil occurs (gas station, car and truck wash, forklift washing place, and paint shop), oil separators are installed. The drainage and removal is performed by a certified, specialized company. The facilities are also regularly monitored by a specialist. To protect the receiving water, any exposed areas (yeast loading, roof tops, chimneys of the wort boilers), where rainwater may get contaminated, are hooked up to the untreated waste water canalization and not to the rainwater drainage system.

The waste water canalization as well as the drains are made out of highly resistant polypropylene which prevents any leakage of waste water into the ground. This also ensures that no sewer infiltration water flows via the sewer system into the water treatment plant. The entire sewer system is regularly cleaned and inspected by a certified company in accordance with the Regulation for Self-Monitoring of Sewer Systems and Discharge of Waste Water from Combined Sewer Systems and Separate Sewer Systems (Verordnung zur Selbstüberwachung von Kanalisationen und Einleitungen von Abwasser aus Kanalisationen im Mischsystem und im Trennsystem [SüVKan]). Afterwards, the generated canalization sludge and waste material are properly disposed. With all these efforts, we take great care that no water bodies and their associated natural biotopes are negatively impacted by waste water discharge and surface waste waters.

During the Operation of a Brewery, Some Waste Is Unavoidable

However, the entire organization is asked to keep the amount as low as possible. We work by the principles "Avoid > Reuse > Dispose." Our employees are asked to avoid generating waste. If this is not possible, the waste is separated, so it can be recycled. If this is not possible, the rest must be properly disposed of.

All waste is separately collected and temporarily stored in special containers including transfer troughs, containers for paste-like and solid waste (Abfall-Sammel-Behälter für pastöse und feste Abfälle [ASP-Container]) and large containers. Afterwards, the waste is picked up by certified waste management companies, who are licensed according to §52 Closed Substance Cycle and Waste Management Act (Kreislaufwirtschafts- und Abfallgesetz [Krw-/AbfG]) for the appropriate waste fractions. To avoid unnecessary transportation with additionally produced emissions, we prefer to use, if possible, local and regional waste management companies.

Our company representative in charge of waste, who attends at least every two years specialized training sessions at the Industry and Trade Commission (Industrie- und Handelskammer [IHK]), monitors and documents in an annual report all procedures regarding the disposal, including spot checking the waste separation as well as the training of employees who are in charge of waste disposal. He supervises the legally stipulated regulations that are part of the contractual agreements with the certified disposal companies in accordance with the Waste Management and Product Recycling Act (Kreislaufwirtschaftsgesetz), and performs once a year an on-site audit of at least one of the waste management companies. Additionally, he maintains a close dialogue with the relevant authorities (County, IHK) and also stays current about changes and updates regarding laws and regulations of the Closed Substance Cycle Act through regular training.

Our ecological and economic handling of waste is governed in our management handbook as a component of DIN EN ISO 9001. We use our own, color-coded collection and separation system, which helps our employees to directly sort the waste according to categories. For the most part, our waste consists of recyclable materials which re-enter the recycling process. Waste for landfills plays a lesser role in terms of volume. The avoidance of waste already starts at the beginning of the value-added-chain. Here, we put great value on receiving raw, auxiliary and operating materials in returnable packaging units, which we then can return to our suppliers for refill. Examples:

- Crown caps in silo containers (contents: 330,000 units each) instead of disposable cardboard boxes
- Labels in returnable package on returnable palettes (instead of disposable boxes)
- Hops extracts in our own stainless steel hop containers (instead of disposable tin cans)
- Detergents and cleaning agents in returnable 1,000 l-IBC-containers

Returnable has more value than disposable, similar to our product packaging, and reuse is better than recycle. For more detail about our systems of material re-utilization, see Chapter VII.

QUANTIFICATION AND TREATMENT OF OUR WASTE

	Unit	2008	2009	2010	2011	2012	Entsorgungsmethode
Disposal method hazardous waste							
Batteries	t	1.17	0.26	0.26	2.24	1.56	Recycling
Cold cleaner	t	2.00	1.13	0.00	0.00	0.00	Incineration
Paint shop waste	t	0.38	0.52	1.12	0.39	1.09	Incineration
Fluorescent tubes	Unit	2,738.00	3,756.00	1,881.00	3,479.00	2,769.00	Recycling
Machine oil	m^3	0.51	0.20	1.08	2.68	1.95	Recycling
Oil separator contents	m^3	86.26	52.00	59.50	50.40	44.20	Recycling
Oil-contaminated operating material	t	2.40	1.89	2.49	2.40	3.98	Incineration
Spray cans	l	480.10	960.00	720.00	800.00	760.00	Recycling
Non-hazardous waste							
Iron containers	t	4.70	0.00	63.20	18.43	35.02	Recycling
Metals	t	64.42	28.82	105.46	188.30	135.18	Recycling
Electronic scrap	t	1.85	3.24	3.58	5.03	3.52	Recycling
Labels	t	1,078.62	1,034.36	1,034.36	991.96	942.44	Recycling
Glass	t	4,887.14	4,877.03	4,389.89	4,146.10	4,136.20	Recycling
Commercial waste	t	396.44	355.53	377.92	468.97	476.43	Incineration and Recycling
Wood	t	46.62	32.62	51.87	54.43	49.44	Recycling
Foil	t	45.44	38.48	64.86	39.18	39.73	Recycling
Paper	t	200.06	182.22	174.95	222.71	154.59	Recycling
Styrofoam	m^3	26.00	20.00	18.00	9.00	10.00	Recycling
Laboratory waste	t	0.21	0.04	0.33	0.06	0.23	Recycling
Filer layers	t	45.00	43.50	41.38	38.00	33.40	Recycling
Diatomaceous earth	t	724.29	690.50	681.52	659.66	708.90	Reuse in agriculture

To verify the execution of the mentioned disposal methods, we receive documentation from the disposal companies as well as verification through audits of these specialized companies.

Any **glass shards** or rejected **bottles** from sorting of empty bottles and bottling are collected according to colors. Afterwards, they are returned in specially equipped containers to the glass kiln for reutilization. The container is designed in such a fashion that after a macroscopic cleaning at the glass kiln location, it can be loaded with palettes of new glass which are returned to Warstein for use in our bottling facilities. This round trip system saves the environment about 150 empty truck trips or 20,000 kilometers per year.

Bottles that arrive as empties and cannot be used by us (e.g. individualized returnables by our competitors) are collected and – if possible – directly exchanged with our competitors. This direct exchange method also functions mostly as round trips to avoid any unnecessary transports. **Other fractions** such as **cardboard packaging, foils** and **paper** are directly pressed in the brewery and prepared for efficient pick-up by the waste management companies.

During the brew process, valuable rest products like brewer's grains and yeast are produced in excess. As described in Chapters IV.1.1 and IV.1.3 in detail, these rest products are delivered as valuable feed to farmers or to appropriate producers for further processing as extracts for human consumption.

BREWER'S GRAINS AND YEAST

	2008	2009	2010	2011	2012
Brewer's grain	50,698	50,409	51,402	48,520	51,120
Yeast	7,780	10,062	9,621	8,322	8,250

Data in tons

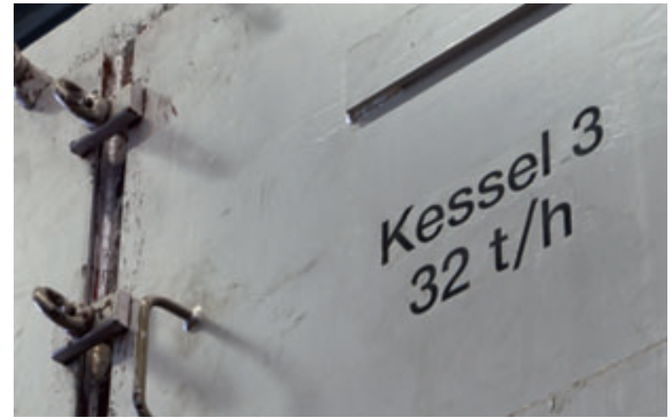
To keep emissions from the transfer of these valuable waste material as low as possible, a specialized logistic and disposal company facilitates the coordination of combining our quantities with those of other companies for efficient transport.

Primarily for food hygiene reasons, several cleaning and disinfecting processes are necessary in the brewery, which contain substances that are classified as hazardous due to their health and environmentally harmful characteristics. All **hazardous substances** are kept in specially equipped storage facilities with collection troughs to prevent soil and groundwater pollution and are listed in an IT-secured hazardous material registry: relevant security data sheets are archived, the operating manuals and safety labels are displayed at the work place for all employees to see and access.

At least once a year, all colleagues who come in contact with these hazardous materials during their work are trained by our specially trained safety officers in the safe handling of these hazardous substances.

We Continuously Work Towards Further Optimization of Our Energy Supply

The brew process with its hot and cold process phases is quite energy intensive. Accordingly, the procurement and availability as well as the consumption management of our energy needs are of great significance. With fossil fuels, the use of energies is directly linked to greenhouse gas emissions, in particular carbon dioxide (CO_2), and significantly contributes to the growing climate change. To decrease the risk of a substantial climate change, energy requirements, especially the use of energies that contribute to greenhouses gas, must be reduced. We prefer to plan our energy use with an eye towards the future and secure it long-term with predictable costs. By intelligently increasing efficiency, we would like to decrease our energy needs as much as possible and use as little energy as possible.



Our handling of natural resources is governed by our energy management system which is certified according to ISO 50001. As part of our PDCA cycle or continuous improvement cycle, respectively, we define essential Key Performance Indicators (KPIs) to help us assess and measure our processes with regards to energy consumption. When we are able to measure something, we are able to improve it. As a precursor, we significantly increased the number of our energy volume meters which led to a drastic increase in the number of measuring sites. Now we can visualize and analyze our energy flows in a very transparent and timely way, even breaking it down by departments and often even by individual users. With these new conditions, we can set our annual goals in a new and realistic way.

Our energy savings goals are agreed upon and documented by the executive management and the responsible department heads. At least once a year, the status of these goals is assessed and evaluated – also a prerequisite for external audits to keep our certification according to ISO 50001, which we gladly fulfill considering our ecological and at the same time economic progress. Significant data and information, among them our energy key indicators, are presented monthly and discussed in our technology management circle, which allows us, if necessary, to identify and implement measurements in a timely fashion. The effectiveness of imple-

ISO 50001 certified systems for reducing our energy use

PROCUREMENT AND USE OF PRIMARY ENERGY SOURCES

	2008	2009	2010	2011	2012
Natural gas	275,329	275,280	350,548	323,596	296,815
Diesel	6,280	7,510	8,620	8,666	8,850
Propellant	4,188	4,241	4,028	3,975	4,348
Total	285,797	287,031	363,197	336,237	310,013

Data in GJ = Gigajoule (109 Joule) as measure for energy volume

PROCUREMENT AND USE OF SECONDARY ENERGY SOURCES

	2008	2009	2010	2011	2012
Electricity use	139,630	130,713	100,483	78,417	80,212

Data in GJ = Gigajoule (109 Joule) as measure for energy volume

USE OF SECONDARY ENERGY (ELECTRICITY) PER PRIMARY SOURCES

	2008	2009	2010	2011	2012
Nuclear	65.60	23.50	23.55	0.00	0.00
Conventional [1]	14.20	45.00	51.42	48.90	17.00
Renewable[2]	20.20	31.50	25.03	51.10	83.00

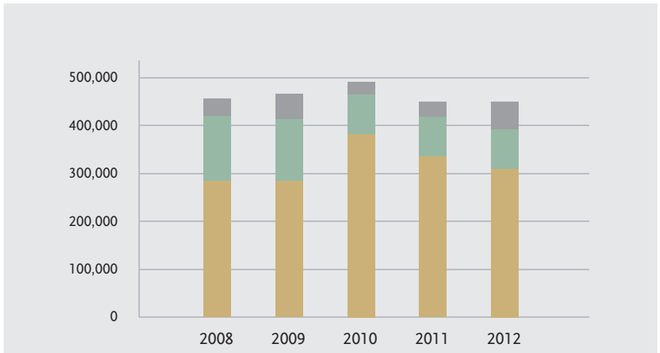
Data in percentages, per information from our energy suppliers
[1] Energy mix: Coal, gas
[2] Energy mix: Biomass, water, wind, solar energy

TOTAL ENERGY USE

	2008	2009	2010	2011	2012
Energy	438,590	430,544	476,095	426,672	401,883
from renewable sources	28,205	41,175	25,151	40,071	66,576

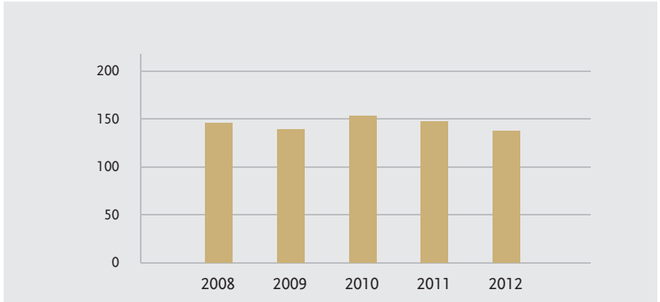
Data in GJ= Gigajoule (10⁹ Joule) as measure for energy volume

TOTAL ENERGY USE



Data in GJ Diesel, Propellant Electricity Gas

SPECIFIC ENERGY USE



Data in MJ = Mega joule (10^3 Joule) as measurement for energy amounts in relation to produced product hectoliter (hl).

mented steps is assessed at the latest in the following monthly meeting, again providing the basis for making decisions about additional or different measures.

The energy needs of our brewery are addressed by a supply of natural gas and electricity. Significantly smaller amounts of diesel fuel and propellants are used in our fleet of vehicles. The energy consumption of our employees' company cars as well as energy used for commuting cannot be considered here, since we do not have sufficient data regarding the various travels. For more detailed information, see Chapter VI, where we also discuss the handling of our energy use, particularly – and we say this with some pride – our pioneering innovations regarding savings in the entire transportation and logistics sector.

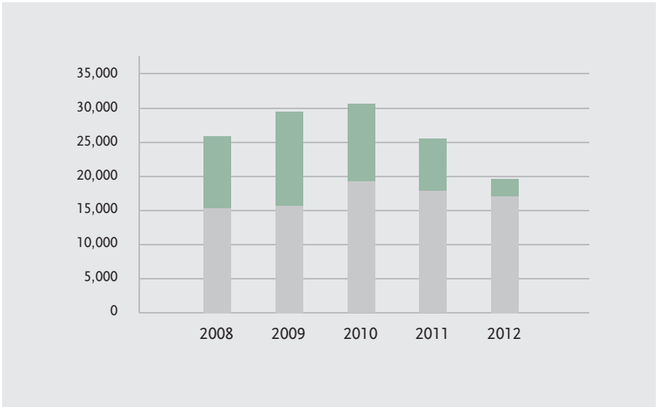
Altogether, our energy consumption remained constant in the previous years. However, in 2010, the consumption of natural gas jumped significantly with the initial operation of our block heat power plant. Furthermore, due to the initial suboptimal operation during the start-up phase of the plant and, coincidentally, coupled with a heavy plant utilization, we recorded in 2010 the highest total energy consumption of the reporting period.

GREENHOUSE GAS EMISSIONS

	2008	2009	2010	2011	2012
Greenhouse gas emissions of direct energies	15,586	15,651	19,490	18,101	16,761
Greenhouse gas emissions of indirect energies	10,007	13,543	11,165	7,689	2,718
Total	25,593	29,194	30,654	25,790	19,479

Data in tons of CO_2-equivalent; due to the limited data material of our energy suppliers, we are not able to provide a further differentiation of the CO_2-equivalents, e.g. in SO_2, NOx, NM-VOCs or particle emissions that are caused by us.

GREENHOUSE GAS EMISSIONS



Data in tons CO_2-equivalent indirect direct

Air Emissions

The use of these different energies is linked to greenhouse gas emissions, which have a negative impact on the environment and are caused by burning fossil fuels that are part of the primary energy sources procured by us. Since we consider climate change as probably the greatest ecological challenge of our time, we are committed to continuously reduce our climate-relevant, operational emissions in the mid- and long-term. We participate in European emissions trading and disclose in our annual emission reports how much CO_2 emissions we have caused in the previous year. Our goal, shared with the EU as initiator of the European emission trading, focuses on an ecologically useful as well as economically efficient operation.

For determining the amount of greenhouse emissions as a result of the direct energies purchased by us, we consult the GE-MIS database (version 4.81) of the International Institute for Sustainability Analyses and Strategies (Internationales Institut für Nachhaltigkeitsanalysen und -strategien [IINAS]) to calculate the greenhouse gases in tons per year based on the following conversion values: Natural gas (0.0558717 Tons per gigajoule = t/GJ), diesel (0.0736695 t/GJ) and propellant (0.0636313 t/GJ). To assess the greenhouse emissions caused by the electricity that we purchased (so-called indirect energies), we use the data supplied by our energy suppliers for our calculations:

The direct greenhouse emissions have significantly increased during the reporting period. This is the result of the commissioning of our block heat power plant in 2010, and the associated substitution of indirect emissions due to the incineration directly at the brewery. The reduction of indirect emissions originates mostly from the block heat power plant investment and the associated reduced electricity procurement. Furthermore, the specific emissions caused by the external electricity procurement have slightly decreased. Prompted by the nuclear catastrophe in Fukushima, Japan, in March 2011, we quickly switched our electricity mix from nuclear energy to alternative energy utilities.

Exemplary Initiatives for Saving Energy and Greenhouse Emissions

Our energy management processes continuously generate and collect systemic strategies and ideas for reducing specific usages, which are evaluated under ecological and economic aspects and consequently implemented. In the past years, we have reduced our specific consumption despite increasingly complex processes (e.g. growing product variety, decreasing batch sizes, elaborate production processes). With the help of the following selected examples, we would like to show that with technical creativity, responsibility and awareness towards nature, and, of course, under cost-benefit considerations, even seemingly smooth running processes and facilities can be further improved.

Block Heat Power Plant

In our block heat power plant, we generate electricity from natural gas and introduce the created waste heat directly in our brewing process. This block-type thermal power plant functions with two gas engines (2 x 1.2 megawatt) with an efficiency rating of over 80 %. The efficiency describes the ratio of used vs. applied energy. Since the produced heat is used in addition to the electricity, the efficiency is considerably higher than, for instance, that of a modern coal power plant, which has a 45 % efficiency rating

for electricity production. Compared to our brewery's previous energy supplies, we now save the environment greenhouse gas emissions of up to 5,000 tons of CO_2-equivalents per year (of course, these values are dependent on running time as well as the development of primary energy mixes for electricity production).

Optimization of the Boiler House

The majority of the heat required for our processes and facilities is still produced in our boiler house with three steam boilers. Since the need for steam has been significantly reduced, and the heat management of our operations has considerably improved with the operation of the block heat power plant, we completely renovated our boiler house in the winter of 2011/12. We were able to decommission a large steam boiler and put it in storage, in case it becomes necessary in the future. The two smaller boilers underwent an upgrade with new transducers and controls to ensure optimal incinerations, and thus the lowest possible energy use. Heat recovery systems were integrated in the exhaust flow to separate the heat from smoke, making it available for heating the boiler feed water and other heating processes. Smart boiler sequencing devices now control the two boilers and always adjust them exactly to the required heat. Concerning the steam production, these measures saved us a total of more than 2,100 MWh heat input and 22 MWh electricity per year. This corresponds to the amount of 407 tons of CO_2-equivalent. Additionally, we save 1,140 m^3 of hot waste water.

Increasing the Portion of Renewable Energies

In 2012, only 21 % of the brewery's total energy needs were covered by electricity. Now we cover 76 % of our energy needs with natural gas, which is more environmentally friendly when compared to other fossil fuels. Furthermore, we efficiently convert the gas in our block heat power plant and boiler house into other forms of energy. In the past few years, the energy mix regarding electricity purchased by us has significantly tipped towards renewable energies. At the beginning of the reporting period, the portion of renewable energy was about 20 %, but in 2011 already half of the energy we purchased came from renewable sources. But beyond pursuing an efficient energy supply, to be sustainable also means to constantly work towards reducing one's energy use, so that energy does not even need to be purchased in the first place.

Optimization of Compressed Air Usage

With our ten large air compressors, we produce compressed air for different pneumatic power trains and systems. For instance, all valves in the pipes that transport water, product or cleaning agents operate with compressed air. Additionally, in the bottling facility the lifting cylinders which move cases or grab bottles, also work with compressed air. The expansion of the compressed air distribution networks as well as the fluctuating demands of compressed air pose a great challenge to the management of production and distribution. Over the past several years, we analyzed all applicable processes and implemented the following optimization measures:

- Installation of electronic control devices, which monitor the condition of the compressed air network and, depending on need, activate or deactivate the compressors in advance. These smart devices are self-learning and automatically optimize the operation of the compressed air production station.
- Integration of a variable speed-controlled compressor. While conventional compressors will either run at full capacity or not at all, this compressor seamlessly adjusts to the actual air need. Instances of energy-intensive start-ups and shut-downs are significantly reduced.
- An airtight network is instrumental for the production of compressed air. For maintenance purposes, we use a leakage detection device which regularly allows us to locate and detect leaks, even in noisy environments. Altogether these measures allowed us to reduce our specific compressed air consumption by 16 % in the past three years, which corresponds to an annual savings of more than 1,000,000 kWh electricity or 353 tons of CO_2-equivalents.

Optimization of Air Ventilation Equipment

Inside our plant, particularly in the bottling, warehouse and loading facilities, we observe strict protocols concerning the ambient air quality to ensure our high product quality as well as the well-being of our employees. Microbiological influences play a role during bottling, while in the warehouse moisture (condensation, residual moisture from labels) and dust (tire abrasion, soot particles and dust) are of concern. A variety of ventilation and air condition units control temperature, humidity and the air exchange rate in these facilities. To ensure a constant fresh air supply in the facilities, an extensive network of air ducts with large, powerful ventilators has been installed. In the past several years, we comprehensively analyzed and further optimized the routing of the ducts as well as controlling the fans:

- Upgrade of electronic control units which automate a usage-dependent activation and de-activation, especially on weekends
- Reorganization of supply and exhaust air ducts to allow for an efficient correlation of individual facility areas with individual ventilation units based on actual need
- Installation of heat recovery units in the exhaust ducts that separate heat from exhaust, which also protects the environment
- Installation of freely adjustable electronic frequency converters for the ventilators, which fine-tunes the air volume as necessary

- Optimization of air circulation by installing numerous smaller ceiling vents

With these measures, we annually save a total of 1.8 GWh heat and 223,000 kWh electricity. This corresponds to 406 tons of CO_2-equivalents per year.

Optimization of the Lighting
In order to optimize the lighting in our expansive work areas, we analyzed individual facility segments by looking at their energy use. The following energy-saving optimizations were discovered and implemented:

- Installation of motion detectors that automatically dim the lighting in non-frequented areas
- Installation of daylight sensors that automatically adjust the electronic light intensity in the work areas based on the amount of natural daylight

By installing these smart controls, we were able to save annually 100,000 kWh in electricity and 35.3 tons of CO_2-equivalents.

Innovations Within Our Water Treatment Plant
Two new submerged aerators and two new agitators provide better and more efficient oxygenation in our water treatment plant. For the aeration of our waste water, these upgrades saved us about 220,000 kWh in 2012 compared to 2011, which corresponds to 99 tons of CO_2-equivalents per year.

Innovative Energy Savings in Logistic and Transportation
As already mentioned, these energy savings are discussed in detail in Chapter VI. In particular, our environmentally friendly railway terminal, smart emission-reducing logistic systems and transports.

Multiple Use of Already Climate-Neutral Carbon Dioxide
The majority of the carbon dioxide (CO_2) used by us has been assimilated by barley during the growing phase in the fields. Therefore, its use is climate neutral. Any excess carbonation created during fermentation (see Chapter IV.1.3) is collected and re-used in other processes, e.g. for the hygienic oxygen-free bottling of our beers.

The compilation of the total amount of "saved energy and emission" is very complex when one considers the many optimizations besides the examples mentioned here, and their various, reciprocal effects. For instance, outside temperatures, the degree of machine utilization as well as changes in our product portfolio have significant effects on our specific energy consumptions, and pose a great challenge for the reliable capture of all causal chains. To substantiate in economic terms the positive effects of our technical optimizations in conjunction with our ecological objectives, we apply the following transparent methodology:

In 2008, the specific energy consumption was 145.47 MJ/hl. If one multiplies this "reference consumption" with the relevant benchmark value in 2012, the result is a calculated consumption of 422,481 GJ in 2012. However, the actual consumption was 390,225 GJ, which corresponds to a delta of 32,257 GJ. Since at the same time, our production processes have become significantly more complex due to the introduction of new products and articles, these savings can be considered in good faith to be the result of our considerable efforts to save energy.

IV.2.4 Other Emissions

We Do Not Generate Any Particular Noise or Other Emissions

Besides the already mentioned examples, we are not aware of any other emissions of noteworthy relevance. Odor emissions and their extensive reduction are already described in Chapter IV.1.1 in the section "Wort Boiling and Hot Trub Separation." Because the brewery is located in a forest, we only have nature as our immediate abutter, and we do not produce any notable noise or other emissions. Therefore, we do not see the need for further preventive measures. For information about the reduction of emissions (nuisances, noise and air emissions) regarding our transport methods, particularly passing through our home town of Warstein, see Chapter VI. For information on how we ensure health and work safety of our employees and guests, see Chapter VIII.

The Result of a Responsible Brewing Process: Our Premium Beverages

“To guarantee the maximum food safety for our customers, we closely link our regulations and management systems, ranging from the German Purity Law to our food safety management systems certified in compliance with the internationally applicable norms DIN EN ISO 22000:2005 and FSSC 22000 (Food Safety System Certification). About 5,000 samples are taken daily from the entire production process which generate up to 16,000 analysis results. The obtained data is archived in our laboratory information and management system (LIMS) to allow for a complete, beginning-to-end traceability of all batches. This approach provides us with a highly effective safety system that covers the entire product life cycle.”

Frank Homann, Technical Director, Quality Management and Management Coordinator, Warsteiner Brewery

V.1 Product Responsibility for the Well-being of People and Nature

For Us, Product Responsibility Means a Combination of Maximum Customer Benefits with Highest Safety Standards

Interlinking management systems as part of our product responsibility

Crafted with traditional brewing expertise and state-of-the art procedures, our Warsteiner premium beers and beer mix beverages are now ready in this phase of the process for delivery to our customers. However, before we proceed with the next step and show you how our "smart logistics are benefitting our environment and society," we would like to present in this chapter a comprehensive overview of how we assume our product responsibility: which practices we use to carefully ensure our high product quality and how we exclude any danger for the health and safety of our customers.

We are setting benchmarks for the environmental and social compatibility of our products. With regard to food safety, our sustainability guidelines define mandatory criteria for our activities. The first principle spells out our goal "to exclusively produce and sell products of the highest quality."

Warsteiner stands for premium quality. This also implies that we meet environmental standards and act in nature-preserving ways. Consequently, our measures for a nature-preserving food production take into consideration the entire "life cycle" of our beverages – from development to brewing and enjoyment to recycling and reuse of our packaging and trading units. As an essential focus of research and development efforts, we work towards continuously improving the environmental compatibility and food safety of our products. From our perspective, this approach has proven to be extremely successful. And as a result, we will continue this course in the future.

The ecological and social as well as health and safety-specific effects and requirements of our products are at the center of our entire value-added chain and product life cycle. Regularly discussed in the relevant committees and implemented accordingly, they are also on the agenda in our sustainability council which addresses environmental and social topics across the company. As a premium producer in the upper price segment, we are firmly committed to the ecologically high quality and safety of our beers.

We want to earn the enduring trust of our customers by strictly complying with the German Purity Law, the applicable food acts as well as relevant special regulations such as the European Prepackage Directive, the German Food and Feed Code, and the EU Food Information Regulation, in addition to fulfilling our own, even further reaching standards and measures based on the integrity principle, e.g. the PDCA cycle, ISO 9001, ISO 22000 and ISO 50001. The procedures mapped out in our management systems (Chapter I.2.3) cannot be separated strictly according to an existing series of standards, since in many ways they are closely intertwined with regard to their effectiveness. In the following, we will clarify this approach in more detail.

We will illustrate how we look at our products in a systematic way across our entire value-added chain by considering their social, ecological and economic effects – always with an eye on potential improvements. Furthermore, we will show how we implement these improvements, and how we eliminate potentially negative effects for the health and safety of our customers.

To meet these high expectations, we make sure we receive all changes and updates to the food laws as soon as possible and are ready to implement them in a timely fashion. As a direct member of the German Brewer Association (Deutscher Brauer-Bund e.V.) and via online platforms regarding food regulations, we receive any relevant news without delays, particularly concerning the German and European food laws.

Since we also export our beers globally, we must observe the different, country-specific legal regulations. As a member of the Association for Export Breweries in Northern, Western and Southwestern Germany (Verband der Ausfuhrbrauereien Nord-, West- und Südwestdeutschlands e.V.), we receive early notification about changes in the food regulations of our export countries, which we strictly adhere to. For instance, we submit the anticipated ingredients of our beer mix beverages for testing concerning their global approvals. Our universal approach consists of creating products that comply with the food regulations in all countries while meeting the expectations of our international customers.

The information, which is made available to us by the German Brewer Association and the Export Association, goes far beyond just news regarding food regulations, but also includes environmentally relevant, customs specific data as well as social topics such as alcohol policies. With our membership, we are able to actively participate in providing solutions for problems and to address the public in an informed way.

Product Development

Even prior to the actual production of our products, we consider the relevant social, ecological and economic expectations towards our beers in our brainstorming sessions and product development processes. As described in Chapter I.2.3, we follow all the process steps in the so-called PDCA cycle: Planning, implementing, executing, and continuously testing the results, and if necessary, taking action. This cycle with its inherent, infinite search for potential optimization leads to a constant improvement process.

Accepting high product responsibility with the PDCA cycle, ISO 9001 and ISO 22000

To verify the implementation of our product ideas, we define the necessary steps and responsibilities analogous to ISO 9001. Considering all collective social, ecological and economic requirements, our committees (e.g. innovation circle, steering committee consisting of members of the executive management, sales, marketing and technology as well as research and development) make the decisions about the implementation of a product idea. Particularly to ensure the health and safety of our customers, we apply the international norm for food safety, ISO 22000:2005, which in combination with FSSC 22000 serves as the equivalent to the International Food Standard (IFS 6). This norm is anchored in all production processes across the entire product portfolio of the Warsteiner Brewery.

Already during the development phase, we gather all available information about the substances, materials and energies needed for the new product and check their sustainability impact. We decide on the development of a product, only if all ingredients are obtainable in sufficient volume and in food-approved, health- and safety-appropriate quality. Even in this early phase, we already work according to the HACCP concept: Hazard analysis and identification as well as determination of critical control points, if necessary.

In addition, we analyze during the development phase the minimum shelf life via forced test methods, which consider weather influences (e.g. sun, heat, rain) in extreme conditions and in a time-lapse mode. Here, we include early in the product life cycle the safety and health requirements for our storage and transport chain as well as the usage by the customer. At the same time, product specifications are being developed for each required process step in real-time operation. Furthermore, any additional control measures required in this context for the applied ingredients as well as for the intermediate products are also defined. For instance, one of our basic requirements is, that during regular operation, our beer mix beverages containing sugar are thermally pasteurized in the tunnel pasteurizer to inactivate even the very last remaining yeast cell.

This step prevents accidental packaging explosions caused by delayed fermentation. Even though this process is energy-intensive, it would be irresponsible to bring a potentially unsafe product to market. The final sensory assessment of our new beer developments is performed by our specially trained tasters and via additional tests in specialized institutes with consumer test groups. Furthermore, comprehensive objective, legal and food regulatory tests focusing on product specifications and minimum shelf life as printed on the packaging are performed according to a certified, documented process. To ensure that all relevant safety and health requirements are fulfilled, our Q&S specialists follow step-by-step the initial production and bottling of a new product. Again, they check the product and its production process for additional optimization opportunities, which potentially could be implemented in the next product cycle.

We constantly monitor our production – even in the thousandth production cycle – to guarantee the health and safety of our customers. To safe-guard the finished product against possible external interferences, we implemented several security systems which control access to the brewery grounds and, if necessary, prevent it.

Procurement, Production of Raw Materials

High quality requirements already during procurement

In Chapter III, we explain in great detail the development and further progress of our applied standards concerning our agricultural suppliers. With these standards, we commit our agricultural suppliers to nature-preserving and socially responsible conduct. Furthermore, we also apply during our procurement phase our high quality and ecological requirements to safeguard the health of our customers, e.g. by excluding genetic engineering, harmful contaminants, pesticides and over-fertilization. To meet these objectives, we created one of the most advanced laboratories in the world, plus we use widely recognized test labs.

Production/Brewing Process

Food safety whilst being consumed

Our premium quality beers are tested at all phases of the production process to confirm that they meet not "only" all relevant food regulatory, but also satisfy the highest quality demands in terms of their microbiological, physical and chemical/technical attributes. In our central laboratory, we use state-of-the art molecular biological technology to conduct residue and trace analysis (polymerase chain reactions). This approach is often used in human medicine and by large-scale food industries, but in the brewing industry it represents a relatively rare investment due to its significant costs and high demands on the employees.

LIMS – the virtual brewery for all brewing processes to ensure quality

All applicable test activities focusing on our raw ingredients, support and operating supplies as well as all test results aimed at the entire process chain up to the finished product and its packaging materials are centrally logged in our laboratory information and management system (LIMS). Here, the required test samples and measurements are systematically detailed in control and result plans, which automatically instruct the employees in the production phase as well as the lab which monitoring activities are required. With LIMS, after each cleaning, the tanks, pipes and components are tested for detergent and disinfectant residues. Only after successful verification, the next process step is electronically released – from the initial delivery of our raw ingredients to the bottling of our beers. Additionally, the temperature and concentration of the cleaning agents in our rinsing machines for returnable bottles as well as the comprehensive controls of our inspection machines are documented in LIMS. Each day, about 5,000 samples of various types are collected, which generate about 15,000 to 30,000 results daily for evaluation.

LIMS-supported batch traceability for addressing possible customer complaints

LIMS also documents the actual batch traceability by linking the individual process steps (i.e. mirroring the actual production process). All quality relevant data and test results are merged in the system, whether they come from real-time operation or monitoring activities. It is absolutely crucial for us to be able to provide our employees with the utmost degree of transparency regarding our quality data, since quality is not made in the laboratory but on-site. In case of product complaints, the traceability of our process steps allows us to immediately track the particular product via our retained samples to its bottling day and the relevant brew as well as the associated post-analyses. For each bottling, we retain separate samples that allow us to compare later on eventual defects with our archived samples. This enables us throughout the entire product life cycle to query comparison samples and safely track any reclamations by our customers, so we can adequately address them.

Dialogues with our customers for a constant improvement of out beers

Complaints about products, packaging, promotions or advertisements are centrally recorded and then forwarded to the relevant department for inspection. The customer receives a professional statement and, in case of justified complaints, appropriate compensation. All Warsteiner products leave our brewery in perfect, thoroughly tested condition. In the rare case that complaints occur, it is usually due to incorrect storage during transport to the customer. To maintain and store our beers, we offer bar seminars for our restaurant owners and professional training material to achieve a flawless product and product quality across the entire delivery chain, all the way up to the end consumer.

Complete and correct declaration of our ingredients

Once a year, our employees' compliance with these procedures is checked in internal audits by the central quality assurance department. To further guarantee the correct implementation, our employees participate in training seminars. Every two years, TÜV Nord conducts external audits to verify the compliance of the defined processes. The Warsteiner Brewery fulfills these high norms to receive ISO 22000 certification, which represents an excellent tool for ensuring consistent processes and product quality. And our customers can rely on that.

Employees from all departments, who have particular sensory talents, are further trained to become testers and participate in regular training sessions. None of our beers leaves the tanks before it is tasted and deemed to have perfect sensory qualities.

In Chapter IV, we describe in great detail our traditional and at the same time ultramodern production process. Additionally, we discuss in Chapter IV.2 the impact of our pollutant inputs on nature and society.

Product Communication/Advertisement

During the production of our beers, we place great importance on the relevant expectations of our stakeholders and our customers, who generate the demand for our products and thus ensure our existential and economic business purpose. How we establish these expectations, customer requests and demands, is illustrated in Chapter II.2 "Centuries-old Tradition of Commercial Confidence." We gladly integrate any social and ecological as well as health and safety relevant expectations in the continued development of our products and also include them in our product communication:

Warsteiner offers with its premium beverages excellent quality and finds a broad customer spectrum in the upper price segment while enjoying great popularity (see Chapter II).

The legally required declaration on our packaging provides our customers with comprehensive information to support their decision to enjoy our products: Our natural ingredients according to the German Purity Law, the alcohol contents as well as potential allergens. As required by law, we provide an exact list of nutritional values for our non-alcoholic products. We do not offer products with added dietary fiber, vitamins, minerals, secondary plant materials or additives in terms of "functional food." Our natural Radler Lemon and Radler Lemon Non-alcoholic Isotonic are made with real lemon juice instead of citric acid, which is often used in similar mix beverages to achieve acidification. For the production of Radler Grapefruit Natural, we also use only real grapefruit juice. To keep the ecological impact regarding the transportation of our products as low as possible, these juices are shipped in the form of concentrates from their original growing areas in Africa and South America.

In general, we maintain a very close dialogue with our customers. Although our products are labeled with country-specific, required declarations, we increasingly receive much more detailed inquiries

OUR NATURAL WARSTEINER BEERS

All product categories in our portfolio	Fat reduced	Trans fats reduced	Sodium reduced	Sugar reduced	Sugar substitute	With added sugar	Share of sales in %
Warsteiner Premium Verum (Pilsener)	0	0	0	0	0	0	**93.3**
Warsteiner Non-alcoholic (Pilsener)	0	0	0	0	0	0	**2.7**
Warsteiner Mixes	0	0	0	0	0	**4.1**	**4.1**
Total							**100.0**

This table shows the percentage of sales volume of our beers according to reduced saturated fats, trans fats, sodium and added sugar.
Only our Warsteiner mix beverages with a total sales volume of 4.1 % contain natural sugar.

from our customers, such as: May I drink your product without harming my health even after the best before date has expired? What is the ideal storage and drinking temperature?

Occasionally, we use labels to further emphasize our exceptional quality, e.g. the ECO-Test-Seal in 08/2009 (ECO-Test: "Very good") for our Warsteiner Premium Verum.

In general, all customer inquiries and comments are responded to promptly by our staff, regardless how they reach us. More complex questions about ingredients or product characteristics are forwarded to our expert team in the quality assurance department. Particularly in the case of medical inquiries, which could be of significance for the health of our customers (e.g. diabetes, celiac disease) we always stress that our answers or recommendations must be coordinated with an attending physician. Furthermore, we competently answer questions, for instance, from vegetarians and vegans or inquiries from recovering alcoholics about the consumption of our non-alcoholic products. And we do this in a comprehensive, straight-forward, correct and honest manner, because only that creates trust.

Protection of Customer and Employee Data

Systemic data protection to safe-guard our customers and employees

Data protection and data security of our customers as well as our employees are of primary concern for us. We systematically ensure that we fulfill all legal requirements for data protection as well as accommodate relevant concerns of individuals regarding the trustworthy, safe handling of their personal data. To achieve that, we use numerous technological and organizational security measures to protect personal data against unauthorized access, manipulations, loss and destruction: e.g. with our encrypted databases, firewall systems, differentiated permission set-ups and back-up concepts, etc.

Furthermore, it is important to us that we transparently communicate for which purpose any personal data is collected, processed and used. Only selected and authorized employees, who are obligated to adhere to the Federal Data Protection Act, have access to personal data, but only to such a degree as it is necessary for the above mentioned purposes.

Our data security representative supervises all processes related to data protection across the company and remains up-to-date about developments in data protection and security via regular training. During the reporting period, we have not encountered any data protection incidents.

Compliance with the Law and Integrity Standards

Beer is – when enjoyed conscientiously – a beverage that represents enjoyment of life, conviviality, life quality and health. If consumed in an abusive manner, it carries various risks for the consumer and his/her environment. We promote the responsible consumption of beer and actively participate in measures to prevent alcohol abuse. With our advertisement as well as other communication media, including the Internet, we offer information about the characteristics of our products, including taste, special features as well as our promise of quality.

Voluntary self-control of our planned advertising material

In our advertising material, we strictly comply with the relevant legal regulations, including the law against unfair competition (i.e. no misleading information, only true, verifiable statements, no violation of moral principles), the Youth Protection Act as well as food regulations , e.g. health claims regulation (rules regarding health specific claims) and ethical standards. According to the integrity principle, we are committed to adhering to the German Advertising Council's code of conduct for commercial communications about alcoholic beverages (2009 edition) as well as complying with the Brewer's Code and the sponsoring guidelines (see www.brauer-bund.de/aktuell/alkoholpolitik-im-fokus.html). With the campaigns "Enjoy Beer Responsibly" and "Don't Drink and Drive," we champion as a direct member of the German Brewers Association (Deutscher Brauer-Bund e.V.) a conscientious enjoyment of beer in moderation, a responsible distribution of beer, in particular not to children and juveniles (minimum age 16 years), and campaign against drinking and driving. For more information on the social effects of beer consumption and our measures regarding this topic, see Chapter IX, "The Warsteiner Brewery as a Member of Society."

BIER BEWUSST GENIESSEN. DIE DEUTSCHEN BRAUER.

ALKOHOL? SORRY. 16/18

DON'T DRINK AND DRIVE

As a member of the Central Association of the German Advertising Industry (Zentralverband der deutschen Werbewirtschaft [ZAW]), we present our advertisement materials for advisory pre-evaluation. The experts of this umbrella organization analyze the advertisement material developed by us prior to its publication in the media according to legal regulations, the voluntary codes of conduct of the German Advertising Council, its social acceptance, and to avoid any missteps in our advertisement. We regularly verify compliance with these legal regulations, standards and codes of conduct regarding advertisements for every part of our ad campaigns.

Logistics & Transport

Of course, the storage and transport of our product are also focus of our continuous test activities and, if necessary, included in our optimization efforts concerning our high quality and food safety. For instance, all filled goods are stored in our protected warehouse designated to filled goods until pickup by the beverage distributors. External storage with its exposure to the elements does not occur. Persons not affiliated with the brewery do not have access to our filled goods. The brewery grounds are completely fenced off and monitored by access controls and surveillance cameras. For a detailed description of our environmental and social approach in the area of logistics/transport, see Chapter VI, which also includes information about our low-emission rail transports, an innovation in the brewing industry.

Product Use by the Customers

Our beer leaves the brewery in flawless condition. To make sure, it can be enjoyed by our customers in this perfect state, our quality assurance extends to this phase of product life.

We offer our gastronomy customers special training concerning tapping techniques and safety. Additionally, our trained staff informs our gastronomy customers about beer maintenance – ranging from cleaning of tapping mechanisms and glasses to recommendations about beer storage. Furthermore, we make state-of-the art tapping equipment available. Our gastronomy articles such as glasses, bars and tapping stations are of top quality, supporting restaurant/bar owners and their businesses. Moreover, we, as a brewery, also offer consultations concerning questions about gastronomy concepts, financing issues and inquiries about our product portfolio. For quality assurance purposes, our staff in the field and associated beverage wholesalers regularly receive product information, training materials and appropriate sales promotions, including materials for the gastronomy sector. Our field staff is appropriately trained and well informed, e.g. through sales meetings and via internal newsletters.

Our actions for the prevention of abusive consumption of our beers are detailed in the relevant section in Chapter IX. In Chapter VII, we introduce our returnable and recycling systems, which are major factors in reducing our waste volume.

Recycling/Reuse

The focus of our packaging policy is on "reuse." In Chapter VII, we introduce our goals concentrating on material and resource efficiency, particularly through the use of recycled materials and renewable, ecologically acceptable components for our product packaging. Furthermore, we focus on the usability and biodegradability of products and packaging as well as on our return models and recycling quotas.

Quality assurance by supporting our distribution intermediaries.

For instance, our ultramodern bottle inspection technology ensures the reliable elimination of contaminants during the cleaning phase of our returnable bottles. To further safeguard the health and safety of our customers, we implemented, for instance, during the development of our new returnable cases, the addition of rip-resistant and carry-friendly soft handles for our cases. And in the 24-bottle cases, so-called whisper sleeves were included in the construction, which prevent the rattling of empty bottles in the case, allowing for quieter transport. Furthermore, we have also integrated packaging considerations for customers with disabilities. For instance, we added information in braille on the inside of our cases, so that our customers who are vision-impaired can identify the Warsteiner cases.

VI TRANSPORT & LOGISTICS

Smart Logistics Support Our Ecological, Social As Well As Economic Efforts

“In accordance with our sustainability guidelines, we go to great lengths during the storage and transport to preserve the exceptional quality of our premium products as well as safe-guard the health and safety of our employees and customers. In order to continuously keep optimizing our logistics processes, we use a comprehensive monitoring system, which records the mileage data of each industrial truck (forklift) as well as the entire turn-around times (loading and unloading) for our customer and trucking company vehicles. We regularly research new technologies and opportunities to improve our processes for storing, loading and unloading as well as transporting our products: all for the benefit of the people, the environment and our company.”

Uwe Salvey, Head of Logistics,
Warsteiner Brewery

Logistics is often defined as “the right goods at the right time in the right quality for the right cost to the right location!”

Aligning our sustainable initiatives with the needs of our stakeholders

Regarding the logistics of the Warsteiner Brewery as well as our warehouse storage and transports, we abide by the expectations and requirements of our stakeholders when assessing our goals and actions to be ecologically, socially and economically successful in the long run.

In particular, our customers, trucking partners and employees are at the center of our initiatives. Here, our high quality standards and the preservation of the environment are our key objectives which we try to continuously implement in our comprehensive logistics concept, especially when it comes to the following areas:

- Implementation of our high quality, safety and health standards (quality, safety and health management)
- Use of energy efficient/low emission and ergonomic industrial trucks (nature preservation and employee health/safety)
- Use of environmentally-friendly means of transportation, especially with the advancement of rail transport (innovation, nature preservation and economic efficiency)
- Timely loading and unloading of customer and trucking company vehicles (economic efficiency and customer-friendly service)

Storage of Our Premium Beers

Smart quality control during the storage of our beers

After bottling, the products that are ready for sale are stacked onto pallets and directly moved from the bottling facility to the loading area or the filled goods warehouse. Of course, we take great care that our storage areas are kept at the appropriate climate requirements for our quality products. Since the goods delivered from the bottling facility to the warehouse are usually damp on the outside, the outgoing air of our ventilation system removes this moisture. In addition to data that is automatically collected to determine room air quality and temperature, we also use data from our own weather station and from forecasts provided by the meteorological services. Maintaining the high quality of our products always takes precedence over our efforts to reduce costs and energy consumption; for instance by turning off ventilators or heating units. Furthermore, we always consider the anticipated condensation point of the outside air as well as the existing temperature and relative humidity inside our storage facilities. These tests regarding air quality are of vital importance for our products, but they are also important for our employees, who work every day in the warehouses and loading areas, as well as our customers and trucking partners.

As part of our logistics, we employ a hygiene management system that includes regular inspections of our warehouses. Furthermore, our inventory is checked at least once a month during an audit. The maximum storage time for our product is specified. Already when planning the bottling of our products, we pay careful attention to the schedule to avoid an overextended storage period.

Modernizing Our Industrial Trucks (Forklifts)

For loading and unloading of customer and trucking company vehicles as well as for moving products in our bottling facilities, we use industrial trucks or forklifts of various sizes and engines, which move our average warehouse inventory of 60,000 pallets. To reduce the number and length of trips of these vehicles, we use a modern warehouse administration system (Lagerverwaltungssystem [LVS]), which creates transparency and guarantees the complete traceability of our products. Each pallet is equipped with a bar code label, making it uniquely identifiable around the world. This allows us to perform a quick and dedicated recall, in case a product defect is discovered. Additionally, each driver finds the data for his transports displayed on the terminal of his forklift, which prevents unnecessary and empty trips. The system also enables us to increase loading and unloading in an economical and efficient way while saving fuel and avoiding environmentally harmful emissions.

Modern warehouse management system for transport efficiency and global product traceability

Furthermore, the LVS is linked with the ventilation system in the loading area to safe-guard the health and safety of our employees and customers. When a vehicle from a customer or trucking company arrives at its loading position, the exhaust system is automatically activated during the entire loading time. Upon leaving, it again throttles down to minimum operation. In 2012, we invested almost 1 million Euros to install a state-of-the-art, energy-saving exhaust system with a so-called run around coils heat recovery system. With the help of a heat exchanger, it uses 40 % of the exhaust heat to supply fresh air that is sufficiently warmed up. To minimize the uncontrollable air changes within the warehouse, the large outside doors automatically open and close within a few seconds before and after the vehicles pass through.

Energy-saving ventilation with heat recovery

Due to the significant weight of our beverages, we make sure when purchasing new forklifts that they have reliable lifting power and stability with sufficient acceleration and breaking capacity as well as the lowest possible exhaust emissions – to protect the environment, our employees and our finished products. In the past, we have used vehicles with diesel engines, which were already equipped with highly effective soot-particle filters before the turn of the millennium. To check the pollutant levels in the loading and storage areas, regular tests are conducted by the appropriate authorities and institutions e.g. the Association for Food and Gastronomy (Berufsgenossenschaft Nahrungsmittel und Gastgewerbe [BGN]), which consistently have certified us well below the stipulated limits.

We are constantly striving to reduce our emissions and, at the same time, increase our efficiency. With the improvement of natural gas-powered technology by the automobile industry, we partially converted our forklift fleet to gas-powered vehicles in 2006. This step significantly lowered exhaust emissions and noise pollution for the benefit of our logistics employees. A conversion to electric vehicles was not possible in 2006. In extensive field tests, we determined that their performance capacity was not yet sufficient for our logistical needs of being able to move heavy weight. In 2006, the permanent use of these vehicles was not feasible in our multi-shift-operation due to limited battery capacity and the impracticability and inefficiency of using expensive replacement batteries.

Optimizing our forklift fleet with diesel-powered and electric vehicles

CONSUMPTION/ CO_2 EMISSION

	2012				
	Number of industrial trucks (forklifts)	Consumption per year in liter	Consumption per year in kg	kg CO_2 per liter/kg	kg CO_2 per year
2-ton vehicle propellant	1		2,976	3.12	9,284
3-ton vehicle propellant	6		28,674	3.12	89,464
5-ton vehicle propellant	6		52,773	3.12	164,652
8-ton vehicle propellant	2		37,089	3.12	115,718
8-ton diesel	9	243,740		2.64	643,473
Total	**24**	**243,740**	**121,512**		**1,022,590**

Since 2012, we have been recording the fuel consumption of our industrial trucks. Based on this data, it is now possible to illustrate the CO_2 emissions.
According to the manufacturer's information, the consumption of one liter of diesel generates 2.64 kg CO_2, and the consumption of one kg of propellant generates 3.12 kg CO_2.

From 2006 to 2012, we tested two 8-ton forklifts with gas engines, but the results were not satisfactory. The test vehicles delivered a lower performance with higher noise emissions compared to diesel-powered forklifts. These results were also verified through independent testing by the Association for Food and Gastronomy (Berufsgenossenschaft Nahrungsmittel und Gastgewerbe [BGN], Dortmund) in 2010. In 2012, we again tested forklifts with electric engines as part of our 3-shift-operation – this time with positive results. Moving forward, we will replace some of our combustion engine-powered forklifts with electric forklifts, allowing us to further significantly lower the CO_2 emissions in our warehouse and loading operations.

Furthermore, we follow with great interest the anticipated developments by the automobile industry and others regarding emission-neutral hydrogen propulsion technologies.

The Warsteiner Rail Concept

Since 2005, the Warsteiner Brewery has operated, probably as the only enterprise in the beverage industry, its own rail siding complete with container terminal and a 40-ton portal crane. Increasing traffic congestion, climate change and our social responsibility for our local region make a convincing argument for our rail concept. By moving our freight off the road and onto the rails, we are significantly reducing our environmental impact and noise pollution.

At the time of German unification, the Warsteiner Brewery experienced a tremendous sales increase, which posed new challenges for our logistics and impacted our region with increasing truck traffic, exhaust, noise and the potential for accidents. After an intensive planning phase, a transport agreement was signed in 1997 with the town of Warstein and the Westphalian Regional Railroad (Westfälische Landeseisenbahn). Beginning in 2002 and with a considerable investment in the tens of millions, six new bridges were built, 560,000 m³ of dirt was moved, and 7.2 km of additional tracks were laid down between Warstein and the town of Lippstadt, with about 2.5 km of new tracks on our brewery grounds. Our own rail siding began its operation in 2005.

During the construction of the tracks and the container terminal, some impact on nature and the adjacent countryside was unavoidable. With reforestation and new plantings near the newly installed tracks as well as in the immediate environment, we have reduced our impact on nature to a total area of 0.8 km². These efforts were performed in close cooperation with the authorities and specialists by addressing the appropriate requirements and incorporating relevant research. Similar to our precautions as described in chapter II.3 regarding the protection of our water resources and the nature park adjacent to our brewery, we dedicate ourselves – always in partnership with the appropriate authorities – to the preservation and reforestation of natural biotopes. In addition, we have not undertaken any further structural changes in the infrastructure during the reporting period.

Proprietary rail siding unique in the beverage industry

A system-controlled container terminal with a capacity of more than 200 40-foot containers was built for our rail transports. To fully meet our industry's safety requirements concerning handling and loading, we initiated the development of an open-sided container optimized for the beverage industry. From the first train in 2005 with 12 container wagons, we have been able to increase the volume today to three trains per week with 16 container wagons, each with 32 containers, traveling to Munich and/or Berlin.

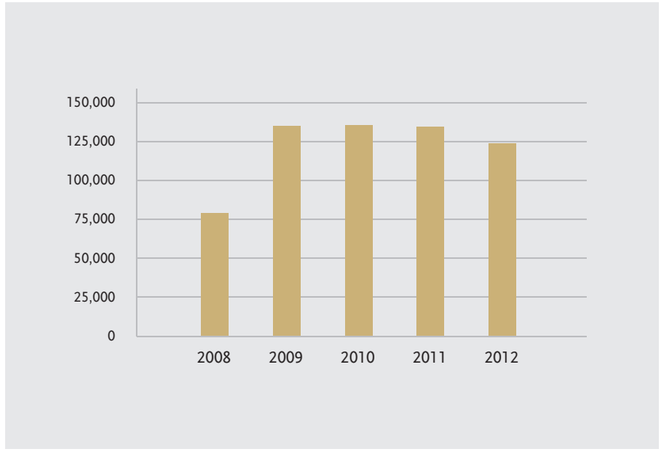
In addition to the transport of our own goods, we have also established our rail system across other industries and today undertake other transports as well:

- Delivery to the Italian market as well as return of empties from Italy
- Handling of freight for third parties (food/nonfood)
- Delivery to our customers in the metropolitan areas of Munich and Berlin
- Return of empties from major customers back to Warstein
- Transport of malt for our beer brewing

Industrywide establishment of our rail systems also for other transports

Since the allowed total weight of 44 tons in a combined rail/road transport is about 10 % higher than in road traffic, we were able to reduce the number of transport units. We have partially replaced our previous carrying wagons with pocket wagons, which facilitate the transport of rail-capable semi-trailers on the railways, thus further increasing the flexibility of our merchandise transports (rail/road) as well as the acceptance of our rail concepts by logistics service providers. In 2012, we were faced with the rail company's decision to reduce the allowed transport weight and no longer supply special wagons equipped with an inside body made out of stainless steel for food hygiene purposes. Against this backdrop, the majority of malt suppliers returned to the delivery of their products by trucks, instead of delivering the 15,000 tons of malt via rail as in previous years. Because of this development, we are now looking for a qualitatively, economically and ecologically suitable alternative.

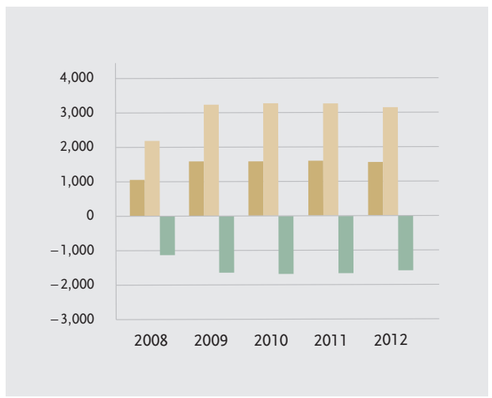
RAIL TRANSPORTS OF THE WARSTEINER BREWERY



Total tonnage per year

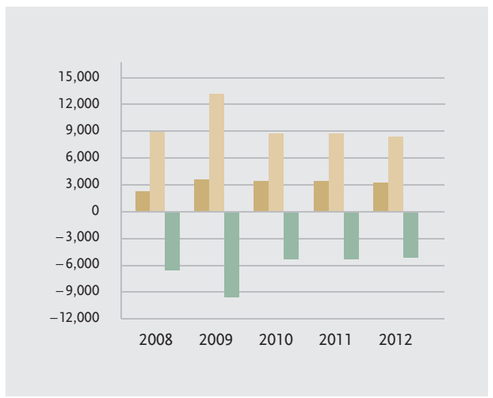
In the following tables, we show the reduction of greenhouse gases (carbon dioxide CO_2) and nitrogen (NO_x) as part of our rail concept. We compare the volume of emissions calculated for rail transport with the volume of emissions generated for the same amount of freight transported by truck, and then show the reduction of environmental pollution as a result of our rail concept.

CO_2 SAVINGS



Data in tons per year

NO_x SAVINGS



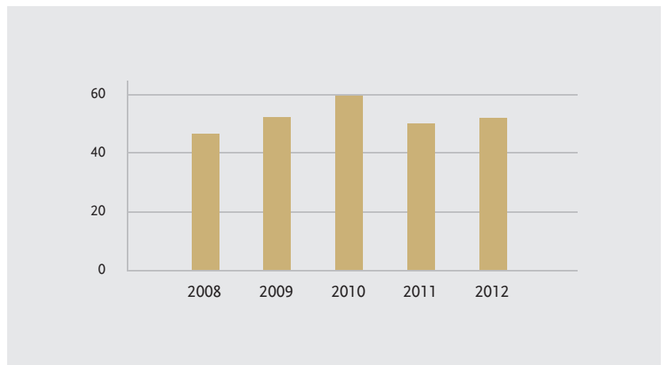
Data in tons per year

The dark brown columns represent the actual CO_2 and NO_x emissions, which were the result of rail transport (e.g. in 2008 1,043 tons CO_2). An alternative transport via road would have resulted in 2,167 tons CO_2 (light brown columns) in 2008. By moving our transports onto rail, we were able to save 1,124 tons CO_2 (green columns) in 2008.
For the comparison rail vs. road, the catalytic converter Euro IV standard was used for trucks in 2008 and 2009. For the train route from Warstein to Lippstadt (the access to the rail network) a diesel engine was used in these calculations. For the longer routes from Lippstadt to Berlin, Munich and Verona (Italy), electric engines were used. Data basis for comparing calculations: Eco TransIT of the Engineering Company for Traffic and Railroad (EcoTransIT der Ingenieursgesellschaft für Verkehrs- und Eisenbahnwesen mbH), Hannover (www.ecotransit.org).

Timely Processing of Customer Trucks and Trucking Companies

To meet our economic goals as well as the needs of our customers and trucking companies, we pay particular attention to a fast and efficient turn-around of all customer and trucking company vehicles that arrive daily at the Warsteiner Brewery. Our goal is to significantly undercut the industry's unwritten rule of two hours that vehicles are expected to spend on our brewery grounds.

AVERAGE LOADING AND UNLOADING TIMES



Data in minutes

The turn-around time for each of our customer and trucking company vehicles is measured and recorded in our modern yard management system at several checkpoints, from the printout of the shipping note to the generation of the delivery slip. This approach allows us to clearly identify where time is "wasted," and subsequently develop and implement steps for improvement. During the reporting period, our turn-around time was consistently on average about 50 minutes. In general, the industry's unwritten rule of two hours was not even reached during seasonal peak times.

Average turn-around time of customer and trucking company vehicles is 50 minutes

If necessary, customers and trucking companies may use a timely, Internet-based time slot management (www.transporeon.com) to facilitate their own scheduling and improve the planning of their loading times at the Warsteiner Brewery. As an additional service during the day shift, we offer our pick-up customers the use of our truck wash free-of-charge. This truck wash is equipped with an oil separator and includes a waste water treatment facility that uses the service water several times for cleaning, requiring only a minimal amount of fresh water per cleaning cycle.

Additional services for customers and trucking companies available during wait time

Selection of Our Logistics Service Providers

Fair, efficient and nature preserving awarding of transport contracts

We post virtually all freight tenders on the Internet via online platforms (www.ticontract.com). This saves personnel resources, time and paper, and allows for fair contract awarding to the most efficient provider. In addition to the conventional, economic components regarding a proposal, we also consider ecological criteria.

For export transports, we ask the prospective providers to include rail transport options to the ports, in addition to road transport, which further promotes rail transports with its lower emissions. Depending on route/destination, we include in our call for bids that the trucking company should consider the use of the Warsteiner rail siding in its proposal. The inquiries are standardized, and the results are displayed online in a timely fashion. This further avoids unnecessary print-outs and regular mail.

Low emission impact is essential when purchasing cars and trucks

Our Car and Truck Use

Our pick-up and delivery traffic, the commutes of our employees as well as their business trips, in particular by our sales reps to ensure optimal customer service, are economically necessary. But these journeys also impact our responsibility towards nature and society with their emissions, noise and resource consumption. We pursue the goal of keeping harmful emissions to a minimum during our required transports by using efficient logistics and alternative rail options. Whenever possible and reasonable, we substitute business travel with phone, video or online conferencing.

New, modern and efficient trucks and cars have made a positive impact with their reduced fuel consumption and CO_2 emissions as well as lower noise pollution. When purchasing our trucks and cars, fuel consumption and emission values are always essential decision criteria. We regret that the progress in the automotive industry has not yet produced an engine technology that meets our requirements. Besides our electric forklifts, we currently are only marginally considering electrically powered vehicles; with their limited range and inferior efficiency, these electric vehicles are not (yet) an option for us.

COMPOSITION OF THE WARSTEINER VEHICLE FLEET

	Quantity	2008 in %	Quantity	2009 in %	Quantity	2010 in %	Quantity	2011 in %	Quantity	2012 in %
MB: B/C-Class	160	68	148	64	170	68	180	71	182	71
MB: Truck/Sprinter	28	12	32	14	35	14	34	13	38	15
Others	48	20	51	22	44	18	40	16	36	14
Sum	**236**	**100**	**231**	**100**	**249**	**100**	**254**	**100**	**256**	**100**

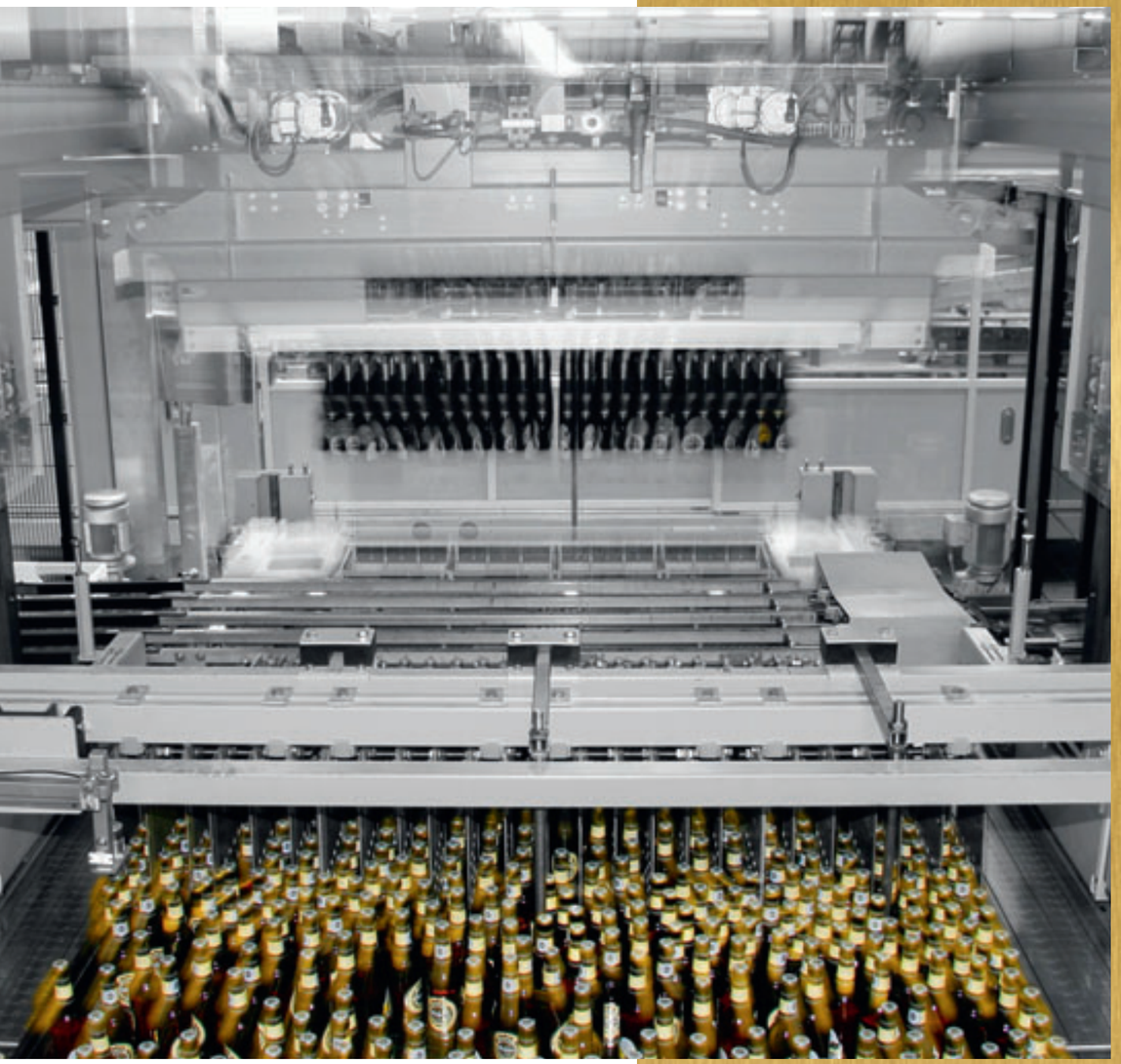
"Others" in 2012: 1 Mercedes Benz A Class, 22 Mercedes Benz E Class, 6 BMW 3 Series, 6 Ford S-Max or Mondeo, 1 VW Passat

In the Warsteiner Brewery, we normally use cars (B-, C- and E-Class with "blue efficiency technology") and trucks from Mercedes Benz. To keep the impact on the environment as low as possible, in 2012 all of our cars and 70 % of our trucks already met the Euronorm V. New investments in cars and trucks are scheduled to meet at least the emission class VI. Regular maintenance and repairs by our own car and truck repair shop as well as by authorized repair shops, keep our vehicles in top condition. Besides the volume of kilometers driven by our staff during business trips, we do not have any data about kilometers and their environmental impact during the daily commutes by our employees. We try to further reduce this impact by offering a modern fleet and recommending not only to drive safely, but also environmentally-friendly. On the other hand, commuting via public transportation to the Warsteiner Brewery is rather difficult considering our rural location.

STANDARD VALUES PER DEALER INFORMATION FOR MERCEDES-BENZ B-AND C-CLASS

	2008	2009	2010	2011	2012
CO_2	151.5 – 170.5	142.5 – 170.5	142 – 170.5	114 – 141	114 – 141
Consumption	5.75 – 6.4	5.4 – 6.4	5.4 – 6.4	4.4 – 5.4	4.4 – 5.4

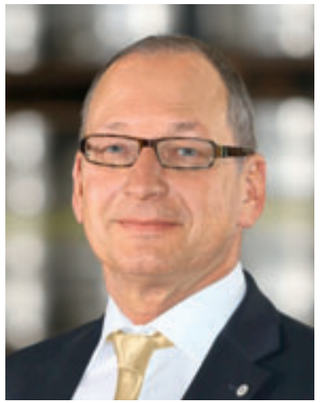
Source: Manufacturer's information for our cars. However, we perceive them with a rather critical eye. Even with a very conservative driving style, we think they are too low.
Data source 2012: www.mercedes-benz.de



VII RECYCLING & REUSE

In the Cycle of Our Brewing Process

“ The majority of our products reaches our customer in environmentally-friendly, returnable containers. Together with our beverage wholesale partners, we expend considerable effort into the prevention of unnecessary packaging waste. Therefore, we avoid the use of individualized containers that cannot be integrated in this cross-company recycling process. ”



Nils Handke, Director, National Sales and Trade, Warsteiner Brewery

Our value-added process and subsequent recycling – from the fields to the customers

In the previous chapters, we presented our goals and processes for the best possible ecological and socially acceptable use of our substances, materials and energies in conjunction with our value-added process – from the fields all the way to our customers. In this chapter, we show you the last step in this cycle, which is also the first step in the production of our products: the recycling and reuse of the substances and materials used in our production process.

For instance, in our previous value-added process steps, we pretreat our waste water in our own water treatment plant and then route it to the municipal treatment plant for final cleaning (Chapter IV.2.1). In addition, we use our already climate-neutral carbon dioxide in several process phases, move the majority of our waste as valuable materials to controlled recycling processes, and resell the by-products of our brewing process, in particular brewer's grains and yeast, as high quality food supplements for human and animal consumption (Chapter IV.2.2). Even the energy that we purchase, we consume in most efficient ways by converting natural gas in our block heat power plant to electricity and heat, thereby significantly reducing the emission of greenhouse gases as well (Chapter IV.2.3). In the following section, we focus on the most environmentally-friendly reuse of our beer containers and packaging.

Active participation in the environmentally-friendly multi-cycle system

Reuse Plays a Big Role for Us

Besides preventing unnecessary consumption of resources, the reuse of material plays a pivotal role for us. During the design of our product packaging, we keep an eye on our ecological objective of avoiding waste by considering its future reuse capabilities. To meet our goals, we employ the entire spectrum of what the modern multi-cycle system has to offer:

The vast majority of our beers leave the brewery in **returnable 0.5 l and 0.33 l long neck pool bottles.** Compared to individualized bottles (e.g. with the brand logo cut into the glass) as some breweries prefer, the multi-cycle pool bottle has today the ecological advantage that empty bottles are not required to be returned to the very same brewery that bottled and marketed them; instead, they can be used by any brewery that uses multi-cycle pool bottles. We collect and exchange any individualized bottles, which arrive as empties and cannot be reused by us, with the relevant breweries against multi-cycle pool bottles, which in turn can be refilled with our beer. In this direct exchange program, the deliveries and pick-ups are scheduled as round trips to avoid any unnecessary transports and emissions. Other materials, including damaged pallets, cardboard, foil and paper are directly collected and compressed in our brewery to facilitate an efficient pickup by the recycling companies.

The breweries that participate in the multi-cycle pool, remove the labels from the empties, clean the bottles and refill them with their products for distribution. This process eliminates unnecessary transport and helps preserve the environment.

The filled bottles are packaged in our **Warsteiner cases** which can easily be found with their unmistakable color in many outlets across Germany's wholesale and retail markets. Our fleet of cases has been in circulation since 2003 and was produced without any materials containing heavy metals. In several cycles per year, our beers are distributed in the same packaging, which promotes a high degree of reuse. The required quality parameters, which were put in place during the production of our beer cases, were recently confirmed through additional tests by the Research and Teaching Institute for Brewing in Berlin (Versuchs- und Lehranstalt für Brauerei in Berlin e.V. [VLB]), to verify that our cases continue to fulfill all transport and quality standards.

Cases that are cleared out due to damage after years of use are collected in our brewery. As soon as enough cases have accumulated, the damaged cases are crushed into granulate and reintroduced into the production of new plastic products, thereby complying with the legally required recycling of material. We consider our multi-cycle beverage cases to be an ecologically acceptable transport and packaging means.

Even more durable than our cases are our **stainless steel barrels (KEGs)**, which are available in 50 l, 30 l, 20 l, and 10 l configurations. These kegs represent an important component in the multi-cycle system as well. With these robust stainless steel containers, we supply our gastronomy partners with our products, including our freshly brewed Warsteiner Premium Verum. Our kegs are sturdy enough to withstand the constant handling in the gastronomy business and can be reused multiple times. To safe-guard the exceptional quality of our products beyond the transport, we regularly check the kegs and replace the worn parts (e.g. springs and gaskets in the fittings) in regular intervals or, of course, earlier if needed. Similarly, we replace the anchor cap as well as clean and check the anchor screw in our plastic-coated tapping kegs. If these kegs show any signs of damage or fissures, they go to a third-party for repair to extend their lifespan. If a repair is impossible, they are put aside for recycling.

For longer transports, we use tank trucks. These trucks are specially designed for the transport of food. Upon arrival at their destination, our beer is filled in market typical containers by our certified partners. Additionally, we supply the gastronomy in neighboring countries in part with tank systems. Here, we fill 10 hl stainless steel tanks and transport them from our brewery together with cases to central warehouses (e.g. in the Netherlands). From there, our beer is further distributed to large gastronomy outlets. The empty tanks and bottles are returned to us for refilling.

Hygienic Cleaning of Our Multi-Cycle Containers and Packaging

Reuse of FSC-/PEFC-certified labels

Ultramodern, environmentally-friendly and energy-efficient care when cleaning the containers

All multi-cycle containers and packaging (e.g. cases) are meticulously cleaned inside and outside before refilling. For our returnable bottles, we use large cleaning machines with a capacity of up to 120,000 bottles per hour. Considering the ecological goals of the multi-cycle system, we take great care to use only a moderate amount of detergent and drinking water during the cleaning process (see also Chapter IV.2.1). For instance, we reuse the fresh water from the last rinse cycle in the pre-rinse cycle of the multi-cycle containers, e.g. in the washing machine for the empty cases.

All bottle rinsing machines are completely insulated and equipped with heat recovery systems, which help to minimize the energy use necessary for a thorough, food hygienic cleaning and thermal disinfecting of the containers. Through the use of heat exchangers, the waste heat from the cleaning machines is reused to warm up the bottles for the pre-rinse cycle without requiring additional primary energy. Without pre-heating, the bottles would burst in the main cleaning solutions which have a temperature of about 80 °C.

Before the cleaned bottles are refilled, we again check their integrity and cleanliness. We use state-of-the-art, fully automated inspection machines for all returnable and non-returnable bottling machines. Each individual bottle is extensively examined and scanned by several high-definition, high-speed cameras from all sides for defects as well as possible residual particles and fluids, for instance, from the bottle rinsing machines. Damaged bottles are removed by the inspection machines and collected in containers, so that the glass factories can melt them for the production of new bottles – a complete recycling system for the preservation of our environment. During the cleaning of the returnable bottles, the old labels are compressed and forwarded to the paper industry for recycling and reuse in the production process. The majority of the pulp used in the production of our paper and cardboard boxes is derived from trees planted and harvested in certified sustainable forestry. It is certified according to FSC, PEFC and/ or SFI.

Since the beginning, the Warsteiner Brewery has been committed to the multi-cycle philosophy and not long ago became a pioneer in this field. In the mid-1990s, we focused on increasing the recycling quota for beer cans. We were able to achieve this goal with the introduction of our own "24-can-returner," basically a returnable case of cans, allowing us to achieve complete recycling. The cans that came back in the returner were added to the brewery's recycling system.

Ever since the introduction of mandatory deposits regarding one-way beverage packaging on January 1, 2003, Warsteiner's can returners became obsolete, because the relatively high deposit of 0.25 Euro per beer can (up to max. 1 l) motivated consumers to return their empty beer cans for recycling via return vending machines installed in retail stores by recycling companies, such as the dual system called Green Point (Grüner Punkt) or the German Deposit Company (Deutsche Pfandgesellschaft mbH [DPG]). In 2011, the recycling rate of beverage cans was about 95 % in Germany (Source: Society for Consumer Research (Gesellschaft für Konsumforschung [GfK], Nürnberg). Since a portion of the cans are transported across national borders or have been destroyed for some reason and therefore are no longer part of the German recycling system, the overall recycling rate will most likely never reach 100 %.

Altogether, we were able with our container/packaging approach – despite the significant export volume, which we will discuss in more detail below – to increase our total return rate to 87.3 % in 2012. During the reporting period, the portion of multi-cycle units in our national distribution actually reached 92.8 % and thus was higher than the national average of 88.45 % (last account in 2009, source: Federal Ministry for Environment, Nature Conservation and Reactor Safety [Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit]).

Summarizing the reporting period, we have reached the following nonreturnable/returnable rates for our beverage containers (returnable/non-returnable bottles, cans, kegs, tanks) in our national and international business (see following table):

We calculated the numbers for our returnable containers by looking at the input and output of our various beverage configurations. As previously stated, our beverage cases have a longevity of more than ten years and often up to 20 years. Slightly defective or lost cases are gradually replaced by purchasing new ones. Such long life cycles, together with an extensive participation in an exceptionally well-functioning recycling system, are even more prevalent with our kegs, tanks as well as multi-use pallets. Even with our returnable bottles, we regularly achieve an almost 100 % return rate thanks to our participation in the long neck bottle pool system.

While environmental organizations like the German Environmental Rescue (Deutsche Umwelthilfe) estimate that returnable beer bottles could circulate up to 40 times in the market, our estimate is closer to 15 to 20 times per bottle. The circular scoring that the bottles receive in the bottling facilities, negatively affects the appearance of the bottles over time, so that breweries replace these unsightly bottles with new ones.

The quantity of our nonreturnable bottles, which we use solely for export, and the quantity of cans used nationally as well as internationally are assessed through procurement data. Of course, these materials never find their way back to our brewery and therefore cannot be evaluated with regard to their recycling rate.

This is also true for the beverage cartons and foils that are used as re-packaging material in the outlets of food retailers, since they end up directly with the end consumer. With regard to these materials, we put our trust in Germany's long running and well-functioning collection and recycling systems for reusable materials that are operated by special service providers. Surveys about the recycling rates for different reusable materials – usually commissioned by federal agencies or associations – are only conducted every several years. Based on this data, it is not feasible to show a continuous development. However, data surveys in Germany are nevertheless quite meaningful, while such data for the European or even the global market is only sparsely available. Generally speaking: The more an industrialized country is developed, the more and better the collection and recycling systems function.

Together with our beverage wholesale partners, we predominantly use a multi-cycle system. But not at any price. We seriously consider the question, up to what distance is the maintenance of a multi-cycle chain still economically and ecologically responsible as the empties must be brought back from other countries to be reintroduced into the multi-cycle system. In Germany, these concerns led us to deliver up to 92.8 % of our output (accumulated across the reporting period) in multi-cycle systems, while for our export, we still maintain 62.0 % of the volume in the multi-cycle system.

NON-RETURNABLE/RETURNABLE RATES 2008 – 2012

	National and international business accumulated
Returnable	87.3 % (64.5 % Returnable bottles, 22.0 % kegs, 0.8 % tanks)
Non-returnable	12.7 % (4.7 % Non-returnable bottles, 8.0 % cans)

CONTAINER PORTIONS 2012

	National business	International business	National business including export
Returnable	92.3 %	62.0 %	87.1 %
Non-returnable	7.7 %	38.0 %	12.9 %

One-way Systems Used Abroad

Critical review of exports in returnable containers

For the Warsteiner Brewery, beer cans play only a secondary role in the national market in terms of volume with a share of 7.7 % of the total sales. As a premium brewery with national distribution, we include cans in our offerings, due to the demand for this type of container by certain consumer groups, particularly from many single households in large cities. However, in our export business – where we also use non-returnable bottles – these single-use containers play a central role and must remain in the portfolio. Unlike Germany, many countries do not offer a similar, well-functioning multi-cycle system, and the international demand for our beers is high. Considering the long transport routes, some as far as overseas, the use of one-way containers also has its advantages from an ecological perspective, since their weight is often significantly lighter than the multi-cycle containers. Concerning our exports into countries without multi-cycle systems, we consider a high recycling ability in the packaging materials used for our bottles and cans, and also look for the lightest weight possible to minimize the amount of resources and transport emissions in the respective countries. Furthermore, during the filling of the small cans, the Warsteiner Brewery is one of the very few breweries in the world that performs an empty can inspection to ensure a maximum in safety and quality for its customers.

Additionally, we strive for increasing the reuse of our non-returnable containers. In Germany, our aluminum cans are labeled according to the system of the German Deposit Company (Deutsche Pfandsystem [GmbH]) and carry a deposit. As part of this system, a deposit of 0.25 Euros is charged, which has led to a return rate of about 95 % across the industry and curtailed the irresponsible damaging of the environment through careless littering. The returned cans are recorded via so-called counting centers (appropriately accredited by the DPG) and reintroduced into the recycling process. This approach allows us to minimize the resource consumption for our one-way packaging, since the aluminum metals with their initially high energy-consuming production can be reused almost in their entirety.

Paper and cardboard from sustainable forestry

As for our cardboard cases, we use solid board and corrugated board, which today is mostly produced from almost 100 % recycled paper. For secondary packaging (e.g. cluster packaging), we use FSC-, PEFC- or SFI-certified solid board. This cardboard is especially suitable for food products and produced from a long-fibered virgin fiber. Later in the recycling process, this material once again becomes a valuable ingredient, since its long-fibered structure ensures the necessary stability of the recycled paper. In our transport and loading packaging (tertiary packaging for the transport of several units of secondary packaging), this high quality is not required due to the lack of direct contact with the actual product. For this type of packaging, we use corrugated cardboard made out of 100 % recycled material, while the cover paper comes from FSC-certified forestry. With this approach, we guarantee sturdy as well as ecologically responsible packaging of our products.

VIII EMPLOYEES

The Team of the Warsteiner Brewery

“ For us, it is always the people who make the difference. A respectful, appreciative and mutually trusting interaction based on honesty and openness is the foundation for a meaningful and performance-boosting identification with our company. For generations, respect and fairness as well as the promotion of diversity and self-responsibility have been core values of our family-owned company and create the basis of our teamwork approach. An open communication, an appreciative performance culture, and a work place with safe and healthy working conditions form the additional building blocks for various development opportunities for our employees. ”

Stefan Bastert, Head of Human Resources, Warsteiner Brewery

For us – executive management as well as employees – our customers, as an important stakeholder group, are always at the center of our work.

We take their expectations and needs as well as our own benchmarks into account to ensure the highest customer value by offering demand-driven, excellent services while preserving the exceptional quality of our brands and beers. Our fair and honest cooperation with each other as well as with the customers is not only our core ethical commitment; it is also vital for running a successful business.

In our personnel policy, we effectively integrate the needs, talents and qualifications of our employees, thereby promoting a positive and enjoyable work environment whenever possible. Faced with an increasing shortage of skilled labor in Germany, we are already competing with many other companies for skilled and qualified employees who would like to work for our company. In this chapter, we introduce our standards for a productive interaction with each other and for fair working conditions.

According to our sustainability guidelines (see Chapter I.1.1), we strive to secure and further expand the overall goals, long-term identification, motivation, engagement and readiness of our employees in a respectful, appreciative and supportive work environment. The balance of family/personal life with work as well as the preservation of our employees' health are fundamental factors to ensure their well-being and productivity in the long run. We guarantee appropriate payment, flexible work models matching if possible the needs of our employees, high standards for work and health, individualized education and training opportunities, and guidelines for the prevention of corruption. We are proud to have made diversity and equal opportunity a value factor in our teamwork.

As part of our basic values and codes of conduct for our suppliers and for ourselves, we abide by the law in addition to the international sustainability standards for compliance with workers' rights ((ILO conventions, OECD guidelines, UN Global Compact, UN Human Rights Declaration, UN Convention against Corruption as well as ISO 26000; see also Chapter III). In close cooperation with our works council, we continuously work on ensuring our high standards regarding our conduct with each other. The looming shortage of skilled labor, an aging population as well as raising the retirement age are challenges that we try to overcome in our personnel management through comprehensive discussions and action models. In the following, we will illustrate them in more detail.

The Ten Guiding Principles of the Warsteiner Brewery

1. For all of us, the company is at the center of our work.
2. Together, we want to secure the existence of the business; in particular by preserving the character of our family-owned company and ensuring its positive development into the future.
3. For our daily cooperation, together we form the "House Cramer Team," which is committed to the Warsteiner quality standards.
4. The central idea of our cooperation is called TEAMWORK. We want to practice teamwork daily, not just on all levels, but also between all levels of the company. Additionally, our teamwork continues beyond the company, particularly with our beverage wholesale, retail and gastronomy partners.
5. In our company, the focus is on the person. We strive for fairness in our daily work. In particular, this includes open communication and looking for solutions without prejudice.
6. Our work is performance-oriented and strives for optimization according to the Warsteiner quality management. Each employee has the opportunity to actively contribute towards further developing his/her own work place as well as the company as a whole.
7. The efforts to secure jobs for the long-term are of utmost importance in all decisions.
8. The company promotes the personal development of each employee through recognition of the various talents and differences.
9. Together, we realize that our actions must include sustainability as reflected in our responsible interaction with the environment.
10. Together, we feel a special responsibility for our fellow human beings and our society. We are proud of our regional roots which allow us to be cosmopolitan and international.

Considering the expectations of our employees and international sustainability standards

The Human Resources Department Is Responsible for All Functions and Processes of Human Resource Work and the Compliance with Work Standards

Systematic comparisons of expectations and development as well as creation of appropriate development plans

The HR department is headed by Stefan Bastert. Besides Mr. Bastert, seven employees work in this department and are responsible for the areas of personnel development, controlling, recruiting and administration as well as project management. Within the administrative area, each employee has responsibilities for a specific pool of employees, e.g. trainees and apprentices, retirees, field reps and office employees. In regular team meetings, current issues regarding the daily operations are resolved. Additionally, information is exchanged that is of relevance to the teams or facilitates coordinating the teams' efforts. Furthermore, the status of the current projects is discussed. The department head directly reports to the executive management and coordinates with the executive managers important HR decisions (see Chapter I.2.4 Management and Decision Concepts).

Our HR management follows the changing market conditions as well as the expectations and needs of our employees to ultimately secure our competitiveness and productivity, and thus the preservation and growth of our company and its workforce. Hereby, we place vital importance on the transfer of competency and knowledge, which must match the work assignments of each employee, and includes the continuous growth and self-responsibility of each employee.

In annual review talks between the executive management and their direct reports (second upper management level, see Chapter I.2.4), our corporate values, sustainability guidelines and leadership principles, which are relevant for every manager and documented in both the management handbook and the review files, are discussed as important elements. In these annual reviews, the functions, objectives and achievements of each manager are evaluated and discussed. Thereupon, future goals regarding their work responsibilities are agreed upon and supportive measures for achieving these goals are discussed and documented, e.g. investments, additional training and development initiatives.

Since 2004, the direct reports conduct similarly structured annual reviews with their employees or managers of the next level, respectively. These employees gradually continue the annual reviews through the different hierarchy levels, thereby eventually covering all employees.

By reviewing the past year in these talks, the reciprocal expectations and evaluations are exchanged and discussed in an open, conversational format. The appropriate corporate goals for the manager's particular area of responsibility are discussed and compared with the employee's expectations. This process also allows for including feedback based on expectations and needs by the employee with regard to the corporate goals and for incorporating this feedback into the entire decision and management process.

In all annual reviews, individualized plans for development and support (e.g. additional training) are generated for each employee to ensure a satisfying and successful realization of these objectives for all participants. In every review, the supervisor documents the individually agreed upon development steps and initiates their implementation. In 2010, all managers participated in a 2-day training course to implement this important concept of our personnel management in a unified format across the entire company.

Mutual appreciation at eye level is an important element in our conversation format, which allows us to achieve outstanding performances together. But also in our daily conversations with upper management, in our weekly department meetings as well as throughout the normal discourse with the executives or with the works council etc., every employee of our family-owned company is invited to pro-actively form and improve his tasks, work place or operational processes. In the culture and structure of our teams, we maintain and support this open, cooperative exchange of expectations and requirements to achieve together contentment and happiness in working at our brewery. With this in mind, innovations as well as improved, self-motivated productivity and quality are consequently promoted.

Top Employer 2010

High job satisfaction among our employees

"The Warsteiner Brewery belongs to the 100 best employers among the small- and mid-sized companies in Germany." This is the result of a 2009 study called "Top Job" – a nationwide benchmark across multiple industries. For this award, the HR department of the Warsteiner Brewery had to be submitted to a strict, two-phase analysis conducted by experts from the Institute for Leadership and Personnel Management of the University St. Gallen (Institut für Führung und Personalmanagement der Universität St. Gallen), including a detailed online survey of the employees concerning their job satisfaction. The results:

- Above average, strong identification of our employees with the brewery as an employer with a rich tradition – average length of employment 17 years
- Strong emotional connection of the employees through the positive image of the Warsteiner brand
- Particularly appreciated were, among others, the regular department meetings, where, for instance, the employees could share ideas as well as criticism
- Direct contact with the executive management
- Shared presentations of new ad campaigns in advance during department meetings or via the Intranet
- Employee job satisfaction: about 65 % versus the average of about 60 % among the 100 top employers

The former Federal Minister for Economy, Wolfgang Clement, awarded the Warsteiner Brewery the seal of approval at the "Top Job" ceremony in the areas of "Leadership and Vision," "Family Orientation and Demography," "Motivation and Dynamic," "Employee Development and Perspective," "Culture and Communication" and in "Internal Entrepreneurship."

On December 31st 2012, the Warsteiner Brewery had 801 employees: 647 men and 154 women

Our Employees Shape Our Deep Connection to the Sauerland Region

Our regional connections and the economic strength of our local region are significant characteristics for our employees. 77 % of our employees live in close vicinity of the brewery. These deep roots and strong identification with our brewery and its prominent presence in the Sauerland region have been developed and solidified over several generations. For some of our employees, it is already the 4th generation working for us.

EMPLOYEES PER EMPLOYMENT CONTRACT AND GENDER

Employment contract	2012 ♂		2012 ♀		2012 Total	
Permanent employees	581	89.8 %	134	87.0 %	715	89 %
Contractors	36	5.6 %	9	5.8 %	45	6 %
Apprentices/trainees	30	4.6 %	11	7.1 %	41	5 %
Total	**647**	**100 %**	**154**	**100 %**	**801**	**100 %**

EMPLOYEES PER REGION AND GENDER

Region	2012 ♂		2012 ♀		2012 Total	
Town of Warstein	273	42 %	67	44 %	340	42 %
Anröchte, Meschede, Möhnesee & Rüthen	146	23 %	31	20 %	177	22 %
Soest & HSK (Hochsauerlandkreis) Counties	66	10 %	35	23 %	101	13 %
Germany	162	25 %	21	14 %	183	23 %
Total	**647**	**100 %**	**154**	**100 %**	**801**	**100 %**

PERMANENT EMPLOYEES PER EMPLOYMENT TYPE AND GENDER

Type of employment	2012 ♂		2012 ♀		2012 Total	
Full-time	581	100 %	88	66 %	669	95 %
Part-time	0	0 %	46	34 %	46	6 %
Total	**581**	**100 %**	**134**	**100 %**	**715**	**100 %**

AGE CATEGORIES OF OUR EMPLOYEES

Age Category	2012 ♂		2012 ♀		2012 Total	
Younger than 30 years	71	11.0 %	30	19.5 %	101	12.6 %
30 – 50 years	323	49.9 %	88	57.1 %	411	51.3 %
Older than 50 years	253	39.1 %	36	23.4 %	289	36.1 %
Total	**647**	**100 %**	**154**	**100 %**	**801**	**100 %**

EMPLOYEES PER EMPLOYMENT CONTRACT AND GENDER (ABSOLUTE)

Employment contract	2008 ♂	2008 ♀	2008 Total	2009 ♂	2009 ♀	2009 Total	2010 ♂	2010 ♀	2010 Total	2011 ♂	2011 ♀	2011 Total	2012 ♂	2012 ♀	2012 Total
Permanent employees	639	141	**780**	642	142	**784**	605	135	**740**	597	127	**724**	581	134	**715**
Temporary contract	16	12	**28**	24	6	**30**	25	11	**36**	43	10	**53**	36	9	**45**
Apprentices/trainees	41	13	**54**	40	13	**53**	41	11	**52**	31	9	**40**	30	11	**41**
Total	**696**	**166**	**862**	**706**	**161**	**867**	**671**	**157**	**828**	**671**	**146**	**817**	**647**	**154**	**801**

Employee fluctuation

Adjustment to market concentration through natural fluctuation and partial retirement of older employees

Our employees are the force behind our developments: we would like to work together in a lasting fashion. However, the development of the beer market in Germany has been retracting for many years now. We have gradually adjusted our work force requirements through natural employee fluctuation and legal part-time programs for older employees while addressing the expectations of our employees and fulfilling relevant legal regulations. During the reporting period, the staffing development of the Warsteiner Brewery (changes in head count Ø: –2.1%) mirrored the development in the entire beer industry (Ø: –2.4 %, Source: German Brewers Association [Deutscher Brauer-Bund e.V.])

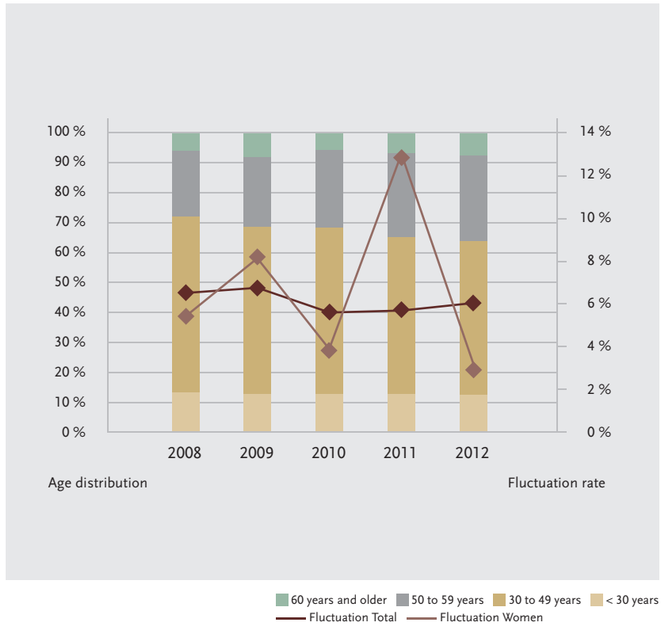
In the reporting period, the fluctuation rate moved between 5.6 % and 6.7%, which resulted in an average of 6.08 %. With regard to the age structure, the employee fluctuation showed the following distribution:

- under 30 years: 12.14 %
- 30 to 50 years: 4.9 %
- over 50 years: 31.56 %

The comparatively high fluctuation rate in the age group “<30 years” is caused by the completion of the apprenticeships of our trainees; in the age group “50 and older,” we specifically must take into account the retirement rates. 6.7 % of the employees who left our company were women, primarily due to family reasons, change of employment or relocation.

The Warsteiner Brewery maintains a good partnership with its works council and the relevant union. In 2012, except for our upper management, all employees (i.e. 638 of 801) were covered by a collective bargaining agreement (framework wage agreement, company agreement): 80.9 % of the permanent employees (579), 40.0 % (18) of employees with temporary contracts and 100 % (41) of our apprentices/trainees.

FLUCTUATION RATE AND AGE DISTRIBUTION



NEW HIRES

Age Category	Town of Warstein ♂	Town of Warstein ♀	Town of Warstein Total	Anröchte, Meschede, Möhnesee & Rüthen ♂	Anröchte, Meschede, Möhnesee & Rüthen ♀	Anröchte, Meschede, Möhnesee & Rüthen Total	Soest & HSK [Hochsauerlandkreis] Counties ♂	Soest & HSK [Hochsauerlandkreis] Counties ♀	Soest & HSK [Hochsauerlandkreis] Counties Total	Germany ♂	Germany ♀	Germany Total	Total ♂	Total ♀	Total Total
2012															
< 30	5	1	**6**	3	2	**5**	2	2	**4**	2	1	**3**	12	6	**18**
30 to 59	1	2	**3**	0	0	**0**	1	3	**4**	5	2	**7**	7	7	**14**
60 and older	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
Total	**6**	**3**	**9**	**3**	**2**	**5**	**3**	**5**	**8**	**7**	**3**	**10**	**19**	**13**	**32**

DEPARTURES

Age Category	Town of Warstein ♂	Town of Warstein ♀	Town of Warstein Total	Anröchte, Meschede, Möhnesee & Rüthen ♂	Anröchte, Meschede, Möhnesee & Rüthen ♀	Anröchte, Meschede, Möhnesee & Rüthen Total	Soest & HSK [Hochsauerlandkreis] Counties ♂	Soest & HSK [Hochsauerlandkreis] Counties ♀	Soest & HSK [Hochsauerlandkreis] Counties Total	Germany ♂	Germany ♀	Germany Total	Total ♂	Total ♀	Total Total
2012															
< 30	6	0	**6**	3	1	**4**	0	1	**1**	3	0	**3**	12	2	**14**
30 to 59	3	0	**3**	2	2	**4**	4	0	**4**	7	1	**8**	16	3	**19**
60 and older	9	0	**9**	2	0	**2**	1	0	**1**	3	0	**3**	15	0	**15**
Total	**18**	**0**	**18**	**7**	**3**	**10**	**5**	**1**	**6**	**13**	**1**	**14**	**43**	**5**	**48**

FLUKTUATION

Age Category	Town of Warstein ♂	Town of Warstein ♀	Town of Warstein Total	Anröchte, Meschede, Möhnesee & Rüthen ♂	Anröchte, Meschede, Möhnesee & Rüthen ♀	Anröchte, Meschede, Möhnesee & Rüthen Total	Soest & HSK [Hochsauerlandkreis] Counties ♂	Soest & HSK [Hochsauerlandkreis] Counties ♀	Soest & HSK [Hochsauerlandkreis] Counties Total	Germany ♂	Germany ♀	Germany Total	Total ♂	Total ♀	Total Total
2012															
< 30	18.8 %	0.0 %	**14.3 %**	12.0 %	11.1 %	**11.8 %**	0.0 %	11.1 %	**6.3 %**	42.9 %	0.0 %	**33.3 %**	16.9 %	6.7 %	**13.9 %**
30 to 59	1.4 %	0.0 %	**1.1 %**	1.9 %	9.5 %	**3.1 %**	7.4 %	0.0 %	**5.1 %**	4.9 %	5.3 %	**5.0 %**	3.1 %	2.5 %	**3.0 %**
60 and older	45.0 %	0.0 %	**39.1 %**	15.4 %	0.0 %	**14.3 %**	20.0 %	0.0 %	**16.7 %**	23.1 %	0.0 %	**23.1 %**	29.4 %	0.0 %	**26.8 %**
Total	**6.6 %**	**0.0 %**	**5.3 %**	**4.8 %**	**9.7 %**	**5.6 %**	**7.6 %**	**2.9 %**	**5.9 %**	**8.0 %**	**4.8 %**	**7.7 %**	**6.6 %**	**3.2 %**	**6.0 %**

Diversification as an asset of the Warsteiner Brewery

The upper management of the Warsteiner Brewery is defined by us as "direct reports" (i.e. second highest management level, which directly reports to the executive management[1]). Per definition, in 2012 the "direct reports" were 3.6 % (24) of employees, of these 95.8 % (23) were men, 58.3 % (14) "direct reports" are between 30 and 49, 33.3 % (8) are between 50 and 59 (among them one woman), and 8.3 % (2) employees are 60 and older.

During the reporting period, all members of the upper management were German nationals. At the helm of the company is our managing partner, Catharina Cramer.

41.7 % of our "direct reports," come from our local region, the Sauerland, the central location of our Warsteiner Brewery. These managers bring important traditions and regional expectations to our corporate activities. According to the General Anti-Discrimination Act (Allgemeines Gleichbehandlungsgesetz), we apply the same criteria for all applicants, mainly education, qualifications, work experiences and competencies, plus a highly motivated attitude.

We perceive diverse backgrounds, different nationalities, gender, age and opinions of our employees as enrichment for our cohesion and our innovative strength. 2 % (14) of our employees have different nationalities than German, including Italian, Japanese, Dutch, Austrian, Portuguese, Russian, and Spanish, or they come from the former Yugoslavia. 4 % (34) of our employees have a disability. In line with our "core idea of team work," our interaction with each other is open and respectful. We want to benefit from our diversity. As such, we have no knowledge of cases of employee discrimination.

[1] So far, the differentiation of our upper management only covered the level of "direct reports," which we have defined as employees in leadership positions according to the Works Constitution Act (Betriebsverfassungsgesetz). Of course, there are many more managers (department heads, team leads, masters) working at the Warsteiner Brewery in addition to these "direct reports." In the future, we plan to include additional details in our data recording to systematically include all employees with leadership tasks.

We Want to Support Our Employees to Achieve a Balance Between Their Work and Personal Life

Taking our operational requirements into consideration, we have developed flexible work models. In 2012, about 6 % of our administrative staff worked in 16 different part-time models, each matching their individual needs. These flextime models allow our employees to individually start and end their work day while meeting our operational requirements.

For our technical work force, we offer 3- and 2-shift work models in addition to the regular shift (6 AM to 3 PM). These models are offered depending on the seasonal work load and the potential health restrictions of our employees. In weekly rhythms, the early shift (6 AM to 2 PM), late shift (2 PM to 10 PM) and night shift (10 PM to 6 AM) are alternated; in the 2-shift system, the early and late shifts are alternated. 7 % of our employees work the regular shift, about 8 % the 2-shift, and about 20 % the 3-shift.

In 2010 and again in 2012, the Warsteiner Brewery was certified as a family-friendly company by the County of Soest. In addition to these diverse, need-appropriate working time models, this certification also applauded our solutions addressing the individual needs of our employees concerning the work-life balance.

Family Leave

First trend towards paternity leave

To allow parents to achieve a better balance between family life and work, particularly right after the birth of a child, we support the use of parental leave by our employees. During the reporting period, parental leave was mostly used by women – for instance, in 2012 by ten women and two men – even though both men and women are entitled to take advantage of parental leave. In the meantime, however, a new trend has emerged.

While in 2008 and 2009, none of the male employees took parental leave, in 2010 one man used it, and in 2011 and 2012 two men used this opportunity.

All employees, whose parental leave ended during the reporting period, returned back to work (100 %). 22 employees (status 2012) will return in the time span between 2013 and 2016 as their parental leave has not ended yet. All employees, who returned from parental leave, are still working at the Warsteiner Brewery more than 12 months after their return.

PARENTAL LEAVE

	Employees who were entitled for parental leave ♂	Employees who were entitled for parental leave ♀	Parental leave claimed ♂	Parental leave claimed ♀
2008	11	4	0	4
2009	12	7	0	7
2010	16	7	1	7
2011	13	5	2	5
2012	15	10	2	10

VIII.4 Compensation

With Fair and Attractive Salaries, We Want to Contribute to the Economic Well-Being of Our Employees and Their Families

A fair and performance driven compensation system including collective bargaining agreements

The salaries for our employees who are covered under a collective bargaining agreement are handled in accordance with the appropriate laws and the labor agreement of the Siegener Brewery Association (Siegener Brauereiverband e.V.). Hence, we act with regard to salary formation and pay grading in accordance with the legal parameters of the collective federal framework and salary agreements. Basically, we determine our wages depending on function and equivalency. The monthly compensation covers the entire base salary. We combine fixed and variable remunerations only in the salary packages for our "direct reports," field reps and individual employees from other departments. The variable portion is linked to the individual performance as well as the economic development of the company. The foundation for determining the variable remuneration is the above mentioned process of agreeing on objectives during the annual employee review.

Social funds for employees as a private initiative of the owner family

None of our employees receives wages that are subject to the minimum wage regulations.

Equal Opportunity

An unequal treatment of employees with equal performances for equal tasks and responsibilities is not permissible at the Warsteiner Brewery. During our job interviews, we exclude gender-specific or other types of discrimination. The posting of job openings, the selection process, the interviews with applicants, and the hiring and salary discussions, all follow the appropriate regulations and laws, particularly the German Anti-Discrimination Act (Allgemeines Gleichbehandlungsgesetz). Furthermore, we also request that our suppliers adhere to fair working conditions by abiding by legal regulations and international sustainability standards and paying at least minimum wages to their employees who perform services relating to our products (see Chapter III).

So far, an analysis of the ratio between basic salary and remuneration for men and women has not been conducted. In the future, we plan to further expand the details in our data recording to systematically include this data.

Social Funds, Bonuses and Financial Support

As part of our understanding of who we are as the Warsteiner Brewery, we also include additional benefits that exceed the parameters of the collective bargaining agreements. These are handled in various company agreements for all employees in equal measure. In principle, all benefits are available for full- and part-time employees. If necessary, the level of benefits is adjusted according to work time.

The social fund is a private initiative by the Cramer family, the owners of the brewery, and is intended to support without any red tape employees in need. Additionally, employees in lower wage groups receive subsidies and financial support (rehabilitation, dental and vision care). On special occasions, all employees receive financial benefits or presents that go beyond the legal requirements, e.g. for service anniversaries, when turning 50, 60 or 65, for silver and golden wedding anniversaries, for the birth of a child or the death of an employee or death of his/her partner.

Besides the retirement provisions with the Hamburg Retirement Fund (Hamburger Pensionskasse) according to the collective bargaining agreement, the Warsteiner Brewery offers employees the opportunity to pay into the Allianz pension fund as well. Here, a group policy was initiated. Employees, who joined Warsteiner before 1984 and have been with the company more than 15 years, are vested in a company pension. The amount depends on the length of service to the company.

Fair Wages for Temporary Workers

Since the introduction of the political concept "Agenda 2010" and "Flexibility in the Job Market," temporary work is critically discussed in an open forum. Following the significant contractions in the beer market (see Chapter II), the Warsteiner Brewery also employs temporary workers based on the German Temporary Employment Act (Arbeitnehmerüberlassungsgesetzes) to be able to react to a fluctuation in demand with flexibility and to ultimately secure our core work force. Only when all possibilities of a flexible work time arrangement are exhausted, temporary employees are employed.

In 2012, about 5.72 % of the personnel costs at the Warsteiner Brewery were used for temporary work (average in the reporting period: 5 to 6 %). The temporary workers were mostly employed to sort our competitors' empties from our returnables, to presort the waste, and to assemble and package our products for transport. For these jobs, we mostly employ temporary workers from two family-owned, certified, temporary staffing agencies located in the towns of Paderborn and Bielefeld. Both companies pay their temporary workers wages based on a rate set by the Federal Association of Temporary Personnel Service Providers (Bundesverband Zeitarbeit Personaldienstleistungen e.V. [BZW]) and the Interest Group German Temporary Service Providers (Interessenverband Deutscher Zeitarbeitsunternehmen e.V. [IDZ]). Both employ their temporary workers according to work standards supported by the unions relevant for this industry. Of course, our high work place safety standards also apply to the agencies' staff working at our brewery.

In addition to the hourly wage paid by the temporary staffing agencies, the Warsteiner Brewery pays its temporary staff one extra Euro per hour, which translates to a wage increase of over 12 %. We verify with both temporary staffing agencies via regular wage controls that the temporary workers receive the extra Euro per hour that we pay and that no arrears exist regarding social security payments. The temporary workers hired to work at the Warsteiner Brewery are integrated into our social structures and can use those special benefits that are not linked to regular salaries. For instance, the temporary workers also receive two cases of beer per month and may eat in our subsidized cafeteria, like the other employees of the Warsteiner Brewery.

VIII.5 Vocational and Professional Training

Highly Qualified Employees Are Crucial for the Success of Our Company

We support our employees with additional training and assistance in their individual job training and professional growth. Here, employee and supervisor discuss together which type of qualification processes could help the employee to master current and future requirements.

Besides the classic means to further expand one's professional expertise, i.e. computer training and foreign language skills, we also address topics surrounding leadership, communication and self-management. This includes not only the encouragement for developing specialty and technical topics, but also support the personal development of the employee.

To achieve the intended qualification goals, we contract with well-respected training service providers and design together with professional, experienced trainers customized training courses. For quite some time now, we have relied on interdisciplinary project teams, because we firmly believe that a joint effort by employees with various work experience and different perspectives will lead to new developments in the long run. In 2012, we invested an average of 293 Euro per employee in training costs (the average in the reporting period: 275 Euro).

For generations, the Warsteiner Brewery has offered young people a broad spectrum of attractive and modern apprenticeship programs as an entry into their working life. Beyond our own need for skilled workers, we offer young high school graduates a high quality, competent apprenticeship.

Altogether, we offer eleven different occupational job types and two dual field of studies (work study programs): "Marketing Communications Specialist," "Industrial Clerk," "Mechatronics Technician," "Electronics Technician for Industrial Systems," "Machine and Equipment Operator," "Chemical Lab Technician," "Brewer and Maltster," "Warehouse Logistics Specialist," "Technical Draftsperson," "IT Specialist for Application Development" and "IT Specialist for System Integration." In our own training workshop, we help our apprentices and trainees to further understand the training material and to practically implement this knowledge.

The degree programs "Economics" and "Engineering (Mechanical and Electrical Engineering)" at the University for Applied Science in Meschede (Fachhochschule Meschede) are available in parallel to the apprenticeship program at the Warsteiner Brewery (i.e. dual study program). After seven semesters, our graduates receive the academic degree "Bachelor of Arts," or after nine semesters, the academic degree "Bachelor of Engineering."

Since 1966, a total of 366 apprentices have completed their job training at the Warsteiner Brewery. Our apprentices are regularly winners of the "Best of" Award of the Industry and Trade Chamber Arnsberg (IHK Arnsberg), which honors the best candidates in an award ceremony. Due to the frequency with which the graduates of the Warsteiner apprenticeship program are celebrated, it is known in the region that the Warsteiner Brewery not only trains its apprentices well and competently, but also generates life perspectives and careers. 40 % of the apprentices/trainees since 2002 are employees at the brewery. Regardless of their personal and professional development, we offer all apprentices the opportunity to earn their first concrete professional job experience during a 6-month transition phase that starts right after successfully passing their examinations.

VIII.6 Our Traditional Team Work

Shared Activities Foster Familiarity and Social Cohesion

As a brewery with more than 260 years of tradition and a close relationship to our Sauerland home region, we cherish the traditions and rituals that connect people. We attach great importance to family or partnerships as a place for privacy in our society by achieving a balance between work and personal life. In the Warsteiner Brewery, we celebrate with traditional festivities and events our interest in and appreciation of each other. Based on our experiences, a mutual understanding of who we are strengthens the trust and appreciation for each other. And it facilitates and reinforces our long-term cooperation.

Together with our employees, we are proud that currently more than 80 employees are part of the Warsteiner team in second, third and even fourth generation.

Warsteiner Adventure Camp

To help the parents in our work force, we have organized since 2011 the Warsteiner Adventure Camp. In 2011, 25 children of employees and in 2012, 50 children of employees had the opportunity to experience the week-long camp during summer vacation under pedagogical supervision in our beautiful Sauerland.

Warsteiner Stork

In 2002, we started the custom of the Warsteiner Stork, which creates some smiles. As soon as a baby arrives in a Warsteiner family, the stork moves in with the family, decorated with a blue ribbon for a boy or a pink ribbon for a girl. Thus, the stork travels in a festive atmosphere of togetherness from family to family.

However, it usually only stays for a short time with a family; by now, more than 220 little ribbons adorn the stork which was created by a Warsteiner artist.

Tradition and rituals as part of our long-lasting culture

Warsteiner Family Day

Every two years, Warsteiner Family Day is celebrated. This is a day for the entire family in our welcome area of the visitor center, where the families of our employees can get to know us, the work place of their loved ones as well as each other while spending a day filled with games and sport, snacks and beverages, and musical entertainment.

Jubilee Festivities and Excursions for Our Retirees

Employees with a tenure of 25 and 40 years receive a certificate and an anniversary present as part of a ceremony. Furthermore, during the Brewer Fest held in October, the brewery conducts a so-called brewer baptism of all apprentices who finished their training in the past twelve months as well as a special celebration for all current and former employees, who finished their training at the Warsteiner Brewery in the past 10, 20, 30 and 40 years.

Additionally, the brewery organizes each year a trip down memory lane with special excursions for former employees – age appropriate and free of charge for our retirees, of which 250 usually participate.

Other Festivities for Our Employees

We also organize each year the **Warsteiner Employee Soccer Tournament** and the **Warsteiner Team Party**, where colleagues can mingle and enjoy each other in a relaxed atmosphere.

At the Team Party in 2007, we recorded the Warsteiner Employee Anthem as performed by our employees. These enjoyable, personable get-togethers characterize our relationships in our traditional, yet very modern brewery.

VIII.7 Health and Work Safety

The Preservation of Lifelong Health and Productivity of Our Employees Contributes to the Well-Being of Our Company

For a very long time, the self-image of the Warsteiner Brewery has included compassion and reflection regarding the responsibility towards health in one's private as well as professional life. Furthermore, the challenges of an increasing shortage of skilled labor as well as our aging population in Germany are significant factors in promoting the health of our employees. We want to work together for a long time, and health is a vital prerequisite to achieve this goal.

To address the needs and expectations of our employees in their actions and at their work places, we record their expectations, criticisms and proposals for improvement (e.g. via their supervisor, our safety representatives and safety experts, company physician or the works council) and forward them to our Health Committee. This committee includes representatives from upper management, works council, HR department, work safety and work protection department, the company physician, a safety representative and a trusted representative for employees with disabilities. In weekly sessions, the Health Committee evaluates the submitted statements, generates concepts to improve work and health provisions aimed at the preservation of employee productivity, and initiates the appropriate implementation.

Additionally, the Industrial Safety Committee meets four times a year with the objective to promote and strengthen the culture of work protection in the Warsteiner Brewery. Here, the participants are the technical management, the technical director, the company physician, all safety representatives and experts and, as needed, relevant experts and supervisors. The entire work force – production as well as administration – is represented by this industrial Safety Committee, which specifically develops and implements prophylactic measures for the prevention of work place accidents and health problems of our employees.

In 2012, 0.2 % (2) of our employees were working full-time as safety experts. 2.5 % (20) employees assumed the responsibilities as safety representatives and 23.8 % (191) served as first responders; altogether, 26.5 % (213) of the entire work force.

Committee approach and expert processes for the preservation of our health

RATIO OF SAFETY EXPERTS AND REPRESENTATIVES

	2008	2009	2010	2011	2012
Safety expert	0.23 %	0.23 %	0.24 %	0.24 %	0.25 %
Safety representative			2.29 %	2.45 %	2.50 %
First responder			20.53 %	21.30 %	23.85 %

Detailed documentation began in 2010

Innovative, comprehensive prevention passport and other measures to promote health

For the first time in the brewing industry, we organized a comprehensive "prevention passport" available to all employees. In cooperation with the Revitalis Health Center and Professor Harter from the University for Sport in Cologne (Sporthochschule Köln), a total of 178 employees have participated since 2008 in check-ups of their cardiovascular, musculoskeletal systems and occupational health-related ergonomics as well as analyses of health-conscious behavior. Based on the recommendations of the attending physicians and physical therapists, more than 45 individual health-promoting measures were initiated and readily accepted by our employees.

For the continuous fitness training of our employees, we organize in cooperation with local fitness studios Nordic walking courses and exercise groups. Additionally, we offer every year flu shots and free medical check-ups, including stroke-risk analysis, cardiovascular checks, vein checks, back clinics, blood sugar measurements and cholesterol tests. Together with the German Red Cross, we also organize annual blood drives at our company. Our employee teams regularly participate in the annual New Year's run (from Werl to Soest), dressed up in the Warsteiner sports uniform. Furthermore, we continuously organize lectures by experts about the importance of healthy nutrition, which we also promote by offering a varied and nutritious diet in our cafeteria through our own brewery kitchen.

Furthermore, we offer check-ups for our employees according to the German Occupational Safety Act (Arbeitsschutzgesetz) to develop together additional optimizations and consequently implement them.

Professional safety experts and standards for the prevention of accidents

Prevention of Accidents

Naturally, we focus on preventing accidents. After all, every accident is one accident too many. We constantly work on methods and measures to address accident causes, so that they can be prevented in the first place.

For the prevention of work accidents and occupational illnesses, we fulfill all legal requirements and regulations as stipulated by the Association for Food and Gastronomy (Berufsgenossenschaft Nahrungsmittel und Gastgewerbe [BGN]). We regularly inspect the work places with the relevant upper management, the works council and the safety expert as well as provide safety training for each department with our safety expert. The content of these training sessions include safely handling dangerous substances, skin protection, load securing and fire safety. In addition to the work conditions, our safety expert is available for all questions regarding occupational, psychological, hygienic and other work-related issues.

The safety expert also provides advice to all employees and the management team when assessing working conditions (risk assessment), procurement of technical work equipment, and implementation of working procedures and working materials as well as for the design, implementation and maintenance of operating plants, and social and sanitary facilities. Additionally, our safety expert and fire prevention office support safety measures by providing introductory work place training for new hires, generating operating and work instructions and evaluating the visitor management system for our guests on our brewery grounds. The safety expert and safety representatives regularly participate in supplemental training for occupational safety, etc. offered by the Association for Food and Gastronomy.

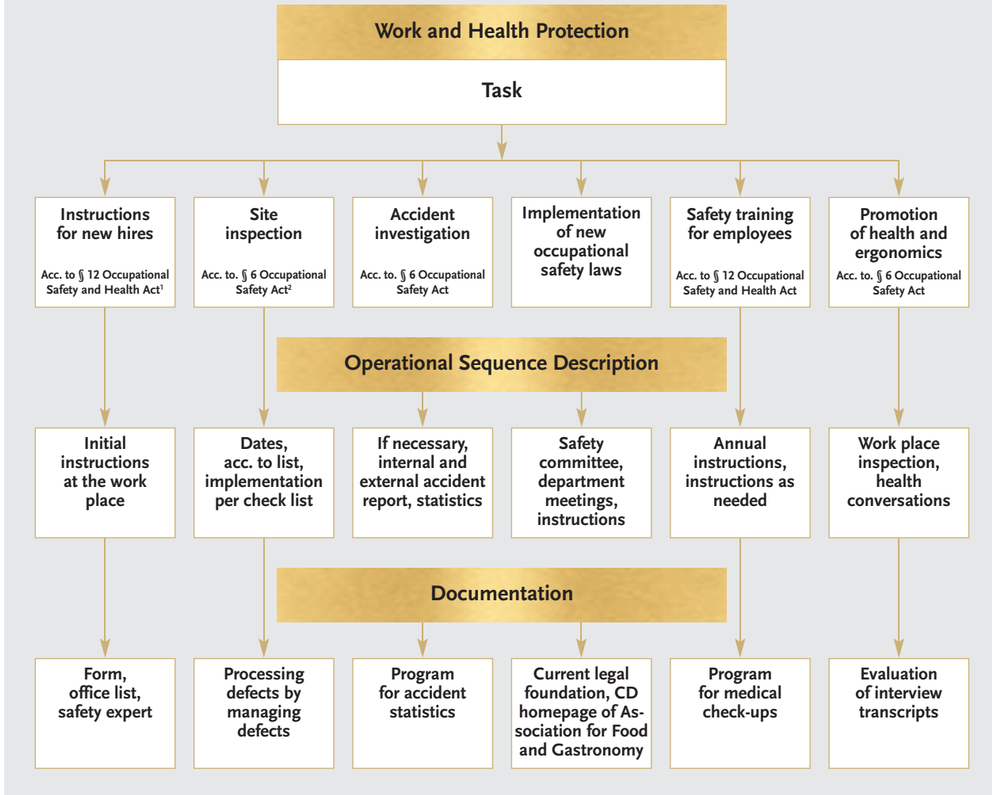
STUDIES ACCORDING TO OCCUPATIONAL SAFETY LAW

Study type	Studies per year (appr.)	Annual study intervals (in years) as recommended by the Association for Food and Gastronomy
Mineral dust	7	3
Noise*	100	3
Driving, control and monitoring activities	125	3
Respiratory protective devices	12	3
Isocyanate	8	2
Benzoyl homology	5	2
Computer workstation*	12	
Welding fumes	4	3
Work with risk of falling	8	25 – 50 year old: 3 > 50 year old: 1
Activities with risk of infections (Hepatitis)	7	3

* Regular examinations (voluntary examination)

"In our training sessions about work safety and accident prevention as well as when organizing our health programs, teamwork between the appropriate supervisors, safety experts, works council and members of the Health Committee is crucial. We have discovered that a well networked communication between all involved committees and groups is highly efficient and leads to sustainable results."

Thomas Gierhard, Works Council Chairman, Warsteiner Brewery



[1] Arbeitsschutzgesetz [ArbSch]
[2] Arbeitssicherheitsgesetz [ASiG]

Once a week, our company physician is available to our employees for consultations about health and work protection. These "health talks" are part of our company agreement and address our duty of caring equally for the preservation, improvement and rehabilitation of the health and productivity of all our employees. Our company physician offers occupational medical advice for implementing concrete steps to help eliminate potential causes for work-related accidents, to prevent another disability, and to lower the subsequent personal and operating expenses. During office hours, the physician's responsibilities naturally also include the initial treatment of possible injuries. After a long illness, we closely support the reintegration of the employee through personal conversations and preparatory measures. Since 2011, we additionally offer road safety training to our employees to help them as much as possible to prevent accidents during their commute or on business trips. In 2011 and 2012, altogether 65 employees participated in the road safety training for cars and three employees attended safety training for motorcycles.

Every accident is systematically analyzed

We sincerely regret that despite intense efforts accidents involving our employees at the work place or while commuting cannot be completely eliminated. The increased numbers in 2010 is due to a lack of statistics in previous years; in 2010, we corrected that. The increases when comparing the years 2011 and 2012 reflect accidents in one of the technical departments as well as an increase in road accidents. The accident numbers of 35.6 per 1,000 are below the industry average of 44.58 per 1.000 full time equivalents (Source: German Brewer Association; Association for Food and Gastronomy). There were no deaths. We also have no knowledge of any occupational diseases among our employees.

To address the development of increased accidents within this particular department, managers and supervisors of the targeted department received special sensitivity training to increase awareness regarding occupational safety and managerial responsibility. Through in-depth accident analyses, we were able to specifically optimize our measures aimed at accident prevention and re-trained all employees in the relevant departments with the help of an expert for occupational safety as well as our company physician. Furthermore, additional employees in the department received supplemental training by the safety representatives. We now have trained more than the required number of safety representatives (not just for the particular department, but for the entire facility at our Warsteiner location). Consequently, we have more than 300 % of the required number of safety representatives in our work force.

To further reduce the work-related accidents, we systematically analyze each accident to consequently identify optimizations and implement them accordingly. The efforts are further facilitated by conversations with the affected employees and other persons involved as well as through site inspections and safety instructions that consider the

ACCIDENT NUMBERS

	2008			2009			2010			2011			2012		
	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total
Number of work-related accidents	14.00	2.00	16.00	17.00	0.00	17.00	37.00	4.00	41.00	33.00	1.00	34.00	35.00	4.00	39.00
Injury Rate (IR)	2.26	1.53	2.13	2.77	0.00	2.30	6.08	3.26	5.61	5.48	0.86	4.73	5.65	3.06	5.20
Lost Day Rate	44.36	22.22	40.51	35.55	0.80	29.65	56.67	21.21	50.73	42.14	8.56	36.69	89.84	33.22	67.50
Absentee Rate (AR)	337.49	152.65	302.54	270.54	5.48	221.60	431.21	145.45	379.03	320.66	58.48	274.11	683.26	227.24	541.34

Our safety expert records all accidents by completing accident reports and informing the Association for Food and Gastronomy about the incidents. The herein presented data for "reportable accidents per 1,000 full-time equivalents" is based on these reports. The data includes every work-related accident that has caused a work disability. Lost days were calculated as planned workdays and paid from the day of the accident. For calculating the rate/quota, we used the factor of 200,000 (derived from 50 work weeks of 40 hours per 100 employees) and applied the resulting rate/quota to the number of employees and not to the number of performed hours.

events of the accident. In addition, we continuously integrate new findings concerning accident prevention, among them information from the Association for Food and Gastronomy , the German Brewer Association, so we can learn from each other to further improve our efforts and, ultimately, avoid accidents.

Actively opposing alcohol abuse and its significant subsequent impact

However, we do not only focus on the safety of our employees, but also on our guests. The visitors of the Warsteiner Brewery receive information intended to keep them safe as soon as they enter the brewery grounds. To do so, we distribute specially developed information flyers to visitors and service providers that include the appropriate safety guidelines.

In development: Certification of our health management according to DIN SPEC 91020

Educational Material Against Alcohol and Drug Abuse

As a brewery, we cannot ignore the different aspects of the enjoyment of our beers. On the one hand, we produce our beers with the highest quality and safety standards for a very traditional enjoyment that is part of our culture and society. On the other hand, we are aware of the social problems caused by alcohol abuse. We actively oppose this abuse. In our company, we address alcohol abuse in accordance with our company guidelines "Banning Alcohol in the Work Place and Preventing and Fighting Alcohol Abuse and Other Addictions." Here, we define our goals and measures for the preservation of the health of all our employees and to fight against addictions by lowering the risk for addicts, supporting addiction-prone individuals as well as addicts as early as possible while simultaneously increasing work safety, preventing accidents and lowering subsequent operational and personal costs.

We are planning to have our health management system certified in the Fall/Winter of 2013 according to DIN SPEC 91020. We hope to further optimize the health management in our company, to anchor and increase the awareness of one's own responsibility about the operational processes and to further reduce our accident numbers and illness-related lost day rate.

VIII.8 Prevention of Corruption

We Want to Act in a Fair and Honest Way in Our Market

We understand corruption as an exploitation of one's position of trust or power to gain personal or corporate advantage by violating ethical standards, such as fairness in equal competitive conditions. Examples are active and passive corruption, accepting and granting advantages. According to our sustainability guidelines, we do not want to abuse our market and trust position for the disadvantage of others. Similarly, we expect from our employees the same conduct and have included this as an obligation in our code of conduct as well as in the employment contracts.

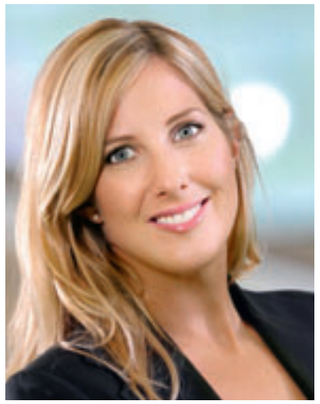
As part of our financial controlling, we always keep an eye out for signs of corruption and directly pursue any leads into all areas and across all business units. In addition, the auditing department regularly conducts spot checks for signs of corruption across the entire company, which could have been initiated by employees or business partners of the Warsteiner Brewery. During the reporting period, two extensive audits took place, which thoroughly inspected the business processes in two business units across departments and operational areas (equal to 33 % of all business units). During these checks, no corruption was discovered. Our Auditing department includes the department head and two employees (0.4 % of the work force), which function as investigators and disseminators to inform our employees about corruption prevention. On average, every two to three years, the entire Auditing department participates in training regarding employee delinquency and anti-corruptions policies.

For a fair and trustworthy competition – active against corruption

IX SOCIETY

The Warsteiner Brewery as a Member of Society

“ Entrepreneurship and social responsibility are two sides of the same coin for the Warsteiner Brewery. Our future and the future of our children depend on how carefully we use our natural resources and on how responsibly we maintain the relationships with our stakeholders. Therefore, it is important for us to contribute within our capabilities to the preservation of nature and to the social development of our society. ”



Catharina Cramer, Managing Partner, Warsteiner Brewery

Our responsibility regarding our use of nature and our interaction with society

Public relations and educational work against alcohol abuse

Wherever we operate, as employer or client, we maintain a multifaceted dialogue with our regional and national environment. This relationship creates a commitment and an opportunity for us to actively support and influence the social environment of our location. In all our activities, we foster a close exchange with our community and local institutions, in which we consider both the regional circumstances as well as wider, social issues. In our support and sponsoring activities, we follow specific priorities. When awarding financial support, we have established transparent structures and clear responsibilities. Through a foundation, a non-profit association as well as resources specifically available to us as a brewery, we support and fund projects and initiatives on the local, regional, national and international level. In our interactions with political parties and special interest groups, we maintain neutrality (see Chapter I.2.1). The main areas of our support are:

1. **Nature & life quality, town & culture**
2. **Children and development assistance & education**
3. **High-profile events in culture and sports**

The Warsteiner Brewery maintains a comprehensive management of its social and ecological contributions. We continuously apply analyses and insights from our exchange with our stakeholders to consequently identify crucial support opportunities in our relationships with the public and in accordance with our sustainability guidelines. Besides legal and economic issues, we also take social and ecological risks and opportunities into consideration. Our Corporate Communications department under the guidance of Stefan Leppin, who is also responsible for our sustainability management, coordinates these support activities. The management of our sponsorships is handled by the Marketing department under the guidance of Jordi Queralt, who is also a member of the sustainability council.

In close coordination with our managing partner and the executive management team, the sustainability council decides on support activities of the company. A continuous monitoring of all activities, their successes as well as development potentials, offers us a foundation for further fine-tuning our contributions. When awarding our financial support, we primarily follow our sustainability guidelines as described in Chapter I.1.1. Here, we place a high value on transparency and compliance with legal regulations and ethical standards. We manage this area as part of our organization, as described in Chapter I.2.4. Before we go further into our support and sponsoring priorities, we want to present our social values, which we understand as directly linked to our products.

Our Traditional Products for the Joy of Life and Conviviality

With our products, we want to contribute to the enjoyment of life and each other in our society and support the preservation of traditional customs as well as a modern event culture – from the traditional marksman's fairs to the big music festivals. As a beverage producer, we assume the responsibility that our natural beverages are produced with the highest quality ingredients to contribute to the health and well-being of our society. At the same time, we promote a responsible and moderate consumption of our products (see also Chapter V.1).

Brewed according to the German Purity Law, beer is a healthy food and beverage, and the vast majority of the public knows how to enjoy it in a responsible manner. We strictly oppose alcohol abuse, including "coma drinking" or so-called "flat-rate drinking." As a brewery, we are well aware of this two-sided behavior and its significant, socially important problems. We continuously support and initiate studies regarding issues of excessive and abusive alcohol consumption, so that we can address these problems with targeted educational efforts and special campaigns. However, all socially relevant forces – legislators and politicians, parents, educators and teachers, responsible persons in associations and the media as well as, of course, first and foremost the producers of alcoholic beverages – are asked to strengthen through prophylactic measures the sense of responsibility when dealing with our traditional food and beverages.

> The Warsteiner Brewery contributes to the fight against alcohol abuse by participating in working committees together with the German Brewer Association (Deutscher Brauer-Bund e.V.) and the Association of Rhenish-Westphalian Breweries (Verband Rheinisch-Westfälischer Brauereien e.V.) to develop effective communication and educational campaigns. We have supported for many years the successful campaigns of the German Brewer Association including "Don't drink and drive" and "Beer – sorry, you must be at least 16" (legal drinking age for beer in Germany), which we have incorporated into our communication material.

> However, it cannot be completely prevented that our products and brands, which traditionally are a part of our social life, are noticed by children and juveniles, and we as suppliers of alcoholic beverages have a special responsibility towards them. If at all possible, we try to avoid any projection in our communication material towards children or juveniles. Across our entire marketing activities, we follow, beyond the legal requirements, our own sustainability guidelines as well as the voluntary codes of conduct of the German Advertising Council. Before publication, we ask the advertising supervisory committee of the Central Association of the German Advertising Industry (Zentralverbandes der deutschen Werbewirtschaft e.V. [ZAW]), in which we are also a member, to pre-check our material to ensure that it does not address any juvenile target groups. Additionally, we practice and maintain a strict adherence to and control by the German Youth Protection Act (Jugendschutzgesetz) when talking to our customers, and we campaign for strict controls regarding the distribution of alcoholic beverages to minors (see also Chapter V.1, section "Product Communication/Advertisement").

Support of Nature & Life Quality, Town & Culture

A brewery and an employer with 260 years of corporate history located in the town of Warstein in the Sauerland region, we have a responsibility to respect and consider the cultural needs and regional preferences of the people living in the region. Besides the cultivation of cultural and regional customs, the overall preservation of life quality and the environment in the town and its surrounding countryside is equally as important for us. With this in mind, we actively participate in the Warsteiner urban development, and as a member of various associations and organizations promote the Sauerland as a tourism location and a vibrant economic region with a high quality of life.

Through memberships in urban and regional tourism associations, support for the German Alpine Association, section Hochsauerland (Deutscher Alpenverein, Sektion Hochsauerland), invitations of internally renowned artists to Warstein for public concerts, individual support for public service projects as well as traditional festivities and other events, the Warsteiner Brewery supports projects that benefit the regional economy as well as the region itself, and in turn also our brewery. Many of our employees are active in cultural associations and sport clubs of their home towns. Because of the extensive real estate holdings of the brewery, we are committed to address questions regarding urban development, ground water supply, flood concerns and also excavation issues.

Varied support of the Sauerland region as a natural tourism destination and economic region

In memory of the life's work of the former brewery owner, Paul Cramer, the Warsteiner Brewery initiated in 1998 the **Paul Cramer Foundation (Paul-Cramer-Stiftung) – a foundation dedicated to the support of public service projects in the town of Warstein.** The foundation focuses on raising funds for the promotion of cultural events, in particular by fostering local heritage, youth and senior citizen initiatives, charitable work, and sports projects in the town of Warstein. As a gift, the Warsteiner Brewery initially transferred 4 million Deutsche Mark to the foundation as starting capital. Since then, the foundation distributes its trust income in irregular intervals to local associations focused on sports and youth initiatives, cultural ventures and tourism as well as local heritage and projects benefiting children and senior citizens. In the reporting period 2008 to 2012, the dividend payments to approximately 60 associations reached 161,000 Euros.

Our Paul-Cramer-Foundation for public initiatives serving the region

The close connection of the Cramer family to the Catholic Church forms the foundation for the brewery engagements in supporting the Catholic Church as a faith-based and cultural institution for the common welfare of the local region. During the reporting period, financial backing was provided for the erection of a chapel, an altar dedicated to the Virgin Mary, and a jubilee bell.

Support of international developmental aid for children & educational projects

In 2005, the managing partner and members of the brewery together with socially engaged representatives of the Warsteiner community started the Warsteiner Partner Funds initiative (Warsteiner Partnerfonds e.V.), a non-profit organization with the goal to "sponsor youth and developmental projects and to charitably support people in need as well as sick and disabled people by raising funds through donations and, if necessary, through financial contributions, and provide these funds ear-marked for particular purposes."

Special support for the future of children in need

Prior to launching this non-profit organization, the owner-family Cramer was instrumental in financing four charitable SOS Children's Villages in Europe and Central America, collecting medical and technical donations for social institutions, and assuming the transport cost to Peru, Argentina, Brazil and Sierra Leone. Furthermore, the Cramer family provided financial aid to a children's hospice in Germany, to the hunger relief organization Naga City in the Philippines and to a Brazilian orphanage in Niteroi.

Own BLOOOM Award for the support of exceptional artistic talents

The managing partner Albert Cramer and the Warsteiner Partner Funds have supported since its inception in 1990 the Asociacion Pachamama e.V. (http://alemania.asociacion-pachamama.org.pe), which provides essential support for building an orphanage and a school in Nasca, Peru. The goal of this organization is to help orphans and troubled youth by offering job training and social perspectives for the future, to support families in need in Nasca and its surrounding areas, and to help build a medical infrastructure. Through our contributions, we were able to create together from very modest beginnings a professionally managed facility that mitigates the traumatic experiences of children with the help of psychologists, physicians and social workers. Since 2005, these aid initiatives have been organized and managed by the Warsteiner Partner Funds.

The latest aid project, supported by the Warsteiner Partner Funds with donations and non-cash contributions, is building and maintaining birthing centers in Eritrea in cooperation with the Archemed organization (Archemed e.V.), which is headquartered in the town of Soest. This project significantly contributes to lowering the infant mortality rate and provides further training for medical staff in Eritrea.

In our interaction with the art scene, our company receives new impulses and ideas which allow us to incorporate these innovative perspectives into our work. On the national level, our Blooom Award by Warsteiner supports young talent from various segments of the art scene. Striving to promote young emerging artists to a wider public and to facilitate their entry into the art market, the Warsteiner Brewery is following a long family tradition in the art and design world (see Chapter II.1). In 2010, we launched the first edition of the Blooom Award by Warsteiner as a national competition. The following year, the Award was opened to include entries from the Netherlands. Altogether, the first two years saw more than 1,200 entries.

Development of potential in the proprietary brew academy, through cooperation with universities and educational programs

In the educational realm, we have created the Warsteiner Brew Academy for Research and Development in 2011. In addition to our apprenticeship and training program (see Chapter VIII.5), this test brewery enables us to search for methods and solutions, while focusing on improvements in energy and quality management. Through cooperations with universities and colleges, we increasingly open our brewery to young researchers and students to support their educational goals and to mutually benefit from joint projects, internships and bachelor and graduate studies programs (see also Chapter IV.2).

Sponsorship of Top Events in Culture & Sport

As an international beverage producer, we pursue sponsoring partnerships beyond our region. Here, we pursue a promotional strategy that increasingly includes specific topics and engagements with a focus on experiences and events. Additionally, the support of first-class sporting events – such as the CHIO in Aachen – remains a component of our sponsoring mix.

In the past year, Warsteiner has gained quite a reputation as a partner of cutting-edge musical events and festivals. Not only does the brewery participate as a beverage partner in numerous festivals such as **Melt!, Berlin Festival** or **SWR3 New Pop,** we also host the **Warsteiner Village** at larger festivals: a separate area with comfortable over-night accommodations for festival guests. Equally as significant are the exclusive partnerships with a number of multi-functional arenas in Germany, including the Esprit Arena in Düsseldorf, the Gerry Weber World in Halle, the Olympic Stadium in Berlin, the Warsteiner Hockeypark in Mönchengladbach, the Sparkassen Arena Kiel as well as the SAP Arena in Mannheim and the Hockenheim Ring (race track).

In addition to these events and entertainment engagements, Warsteiner partners with preeminent events in hot air ballooning, equestrian sports, soccer and handball. Every year, we sponsor the **Warsteiner International Montgolfiade (WIM),** Europe's largest annual hot-air balloon festival. In 2012, the 22nd edition welcomed over 200 balloon teams and 150,000 visitors. Another established event in our balloon sport sponsoring activities is the **Warsteiner Balloon Sail** competition, which is held during the Kiel Week (Kieler Woche). Furthermore, Warsteiner supports this sport as one of the largest sponsors of balloon envelopes.

Another area of sponsorship at the highest level is our engagement in the international world of golf. Since 2012, Warsteiner is the official partner of the **European Tour of the Professional Golfers Association (PGA)**. Furthermore, we are actively participating in the German **soccer** scene as partner of Fortuna Düsseldorf, SC Paderborn and Preußen Münster. The brewery is also is part of the **handball** circuit by partnering with the European and German Champion THW Kiel and the regional club, VfR Warstein.

Also, premium standards for the sponsorship of events and talents

With its own horse breeding farm, the Warsteiner Brewery maintains close ties to the equestrian sport. The **Warsteiner Champions Trophy** annually attracts top international riders to the equestrian show arena in Warstein. Furthermore, we partner with internationally renowned shows such as the **Baltic Horse Show** in Kiel. To promote young show jumping talents, Warsteiner initiated in 2006 the largest show jumping series in Germany: Young riders can test their skills in a total of 30 qualification events in Westphalia, Lower Saxony and Schleswig-Holstein, with an annual grand finale in Warstein.

The sustainability report 2012 follows the guidelines of the Global Reporting Initiative (GRI). This initiative was founded in 1997 with participation of the United Nations and represents a worldwide recognized guideline for the reporting by organizations and companies on social, economic, and environmental topics. These guidelines, which were updated in 2011 (G3.1), form the framework for the sustainability report of the Warsteiner Brewery. The following GRI-Index provides quick access to the pages in the sustainability report, where you can find the information for the relevant GRI indicators.

Global Reporting Initiative™

Statement
GRI Application Level Check

GRI hereby states that **WARSTEINER BRAUEREI Haus Cramer KG** has presented its report "Sustainability Report of Warsteiner Brauerei 2012" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level B.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines. For methodology, see www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 30 June 2014

GRI REPORT GRI CHECKED

Ásthildur Hjaltadóttir
Director Services
Global Reporting Initiative

The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. www.globalreporting.org

***Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 16 June 2014. GRI explicitly excludes the statement being applied to any later changes to such material.*

GRI-Indicator		Page numbers and additional information, if needed	Status
1.	**Strategy and Analysis**		
1.1	Statement from the most senior decision maker	3, 15–23, 30 f., 38 f., 155	●
1.2	Key sustainability impacts, risks and opportunities	3, 13, 15–31, 35–42, 49–52, 63, 78 f., 84, 103–105, 113–115, 125–127, 133–135, 155 f.	●
2.	**Organizational Profile**		
2.1	Name of the organization	10	●
2.2	Brands, products and/or services	13, 35–37, 6 f.	●
2.3	Operational structure	6 f., 10 f., 28 f.	●
2.4	Location of headquarters	10	●
2.5	Countries of operations	10 f.	●
2.6	Nature of ownership and legal form	10 f., 42	●
2.7	Markets	10–13	●
2.8	Scale of organization	6 f., 10 f., 42	◑
2.9	Changes of size, structure or ownership	6 f., 42	●
2.10	Awards	32 f., 137	●
3.	**Reporting Parameter**		
3.1	Reporting period	6	●
3.2	Publication of report	6	●
3.3	Reporting cycle	6	●
3.4	Contact point	3, 163	●
3.5	Process for defining report content	6 f., 19–23	●
3.6	Boundary for the report	6, 42	●
3.7	Limitations on the scope of the report	none (see GRI-Indicator 3.6)	●
3.8	Interferences of reporting periods and organizations by joint ventures, subsidiaries, outsourcing	none (see GRI-Indicator 3.6)	●
3.9	Data measurement techniques and bases of calculations	7, 97	●
3.10	Restatement of information from previous reports	not applicable, because this is the first report (see p. 6)	●
3.11	Changes in the scope, boundaries or measurement methods	not applicable, because this is the first report (see p. 6)	●
3.12	GRI Content Index	160 f.	●
3.13	Assurance by external third-party	7	●
4.	**Governance, Commitments and Engagements**		
4.1	Governance structure	28 f., 136, 140	●
4.2	Indication, whether chair of the highest governance body is also an executive officer	28	●
4.3	Independent members of the highest governance body	28 f.	●
4.4	Mechanism for shareholders and employees to provide recommendations to the highest governance body	28 f., 133–136	●
4.5	Linkage between compensation for members of the highest governance body and the organization's performance	42, 142 f.	●
4.6	Mechanisms for highest governance body to avoid conflict of interest	28 f., 133–136	●
4.7	Qualification of the members of the highest governance body regarding sustainability topics	28 f., 20–23	●
4.8	Mission statements, codes of conduct and principles	15–29, 49–57, 133–136	●
4.9	Procedures of the highest governance body for overseeing the organization's sustainability performance	15–29	●
4.10	Processes for evaluating the highest governance body's own sustainability performance	20–29	●
4.11	Precautionary principles	16–19, 24–29	●
4.12	External agreements, principles or initiatives	20 f., 24–27, 51 f.	●
4.13	Memberships	20 f.	●
4.14	Stakeholder groups	20 f.	●
4.15	Selection of stakeholder groups	19–23, 28 f.	●
4.16	Engagement of stakeholder groups	20 f., 28 f., 40–42, 45, 55–57, 80–83, 105–111, 121 f., 135–137, 144–146, 156–159	●
4.17	Questions and concerns of stakeholders	20–23, 37–42, 45, 57, 78–83, 105–111, 136 f.	●
Economics			
DMA EC	Management approach	9 f., 13, 15–29, 35–37, 40–42	●
EC4	Financial assistance from public authorities/government	42	●
EC5	Ratio of standard entry level wage (related to gender) compared to local minimum wage	142	●
EC7	Hiring of local employees and local proportion in senior management	138–140	●
EC8	Development/impact of infrastructure investments	119	●
Ecology			
DMA EN	Management approach	9 f., 15–29, 45–47, 51 f., 59–61, 63, 78–86, 91 f., 95–100, 113–115, 125–130, 155–157	●
EN1	Materials used	85	●
EN3	Direct energy consumption	95 f.	●
EN4	Indirect energy consumption	95 f.	●
EN5	Saved energy	96–100	●
EN8	Total water withdrawal	86–88	●
EN9	Water sources affected by water withdrawal	45–47, 86–88	●

● completely fulfilled ◑ partially fulfilled

GRI-INDEX

GRI-Indicator		Page numbers and additional information, if needed	Status
EN11	Land usage in or adjacent to protected areas	45–47	●
EN13	Protected or restored natural habitats	45, 119	●
EN16	Green house gas emissions	97	●
EN18	Initiatives to reduce greenhouse gas emissions	97–100	●
EN21	Waste water discharge	89 f.	●
EN22	Waste by type and disposal method	92	●
EN25	Water of bodies affected by the discharges of water and runoffs	89 f.	●
EN26	Initiatives to mitigate environmental impacts	63–100, 125–130	●
EN27	Percentages of products and their packaging materials that were reclaimed	126–130	●
EN28	Sanctions for non-compliance with environmental laws and regulations	83	●
EN29	Environmental impact of transporting	116–123	●
Labor Practices and Decent Work			
DMA LA	Management approach	9, 15–29, 51 f., 55–57, 133–153	●
LA1	Total workforce by employment type, employment contract, region and gender	138 f.	●
LA2	Employee fluctuation by age, gender, and region.	139	●
LA3	Benefits provided only to full-time employees	142 f.	●
LA4	Employees covered by collective bargaining agreements	139	●
LA6	Percentage of workforce represented in management-worker committees	147 f.	●
LA7	Injuries, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and gender	148–152	●
LA12	Performance reviews and career development plans for employees by gender	136	●
LA13	Diversity of employees and governance bodies	138–140	●
LA14	Ratio of salary of male and female employees	142 f.	◑
LA15	Ratio of employees returning after parental leave by gender	141	●
Human Rights			
DMA HR	Management approach	9, 15–29, 51 f., 55–57, 133–153 (The aspect "Rights of Indigenous People" is not a relevant topic for us as brewery.)	●
HR1	Investment agreements that include human rights clauses	none	●
HR2	Screening of significant suppliers and contractors with regard to human rights questions	56	●
HR4	Incidents of discrimination	138–140	●
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor	We operate mostly in Germany, where child labor is forbidden. For our suppliers, the information under HR2 is obligatory.	●
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor.	We operate mostly in Germany, where forced or compulsory labor is forbidden. For our suppliers, the information under HR2 is obligatory.	●
Society			
DMA SO	Management approach	9, 15–29, 51 f., 55–57, 133–153, 155–159	●
SO1	Percentage of operational activities with local engagement, assessment of effectiveness and development programs	156–159	●
SO2	Business units analyzed for risks related to corruption	153	●
SO3	Employee training regarding anti-corruption	153	●
SO4	Anti-corruption measurements	153	●
SO8	Sanctions for non-compliance with laws and regulations.	42	●
Product Responsibility			
DMA PR	Management approach	9, 15–29, 103–111	●
PR1	Assessed life cycle stages regarding health and product safety	105–111	●
PR5	Customer satisfaction	37, 40–42	●
PR6	Adherence to laws, standards, and voluntary codes related to marketing communications and advertisements	110	●
Industry-specific Addendum: Food			
DMA FP	Management approach	9 f., 15–29, 45–47, 50–52, 63, 78–100, 105–111, 113–123, 142 f. (The aspect of life stock keeping is not a relevant topic for us as brewery.)	●
FP1	Percentage of purchased volume from suppliers compliant with company's sourcing policy	56	●
FP3	Lost working time due to strikes, lock-out	There were no strikes, industrial disputes or lock-outs at the brewery.	●
FP5	Percentage of production volume manufactured in sites certified by an independent third party according to internationally recognized food safety management system standards	106	●
FP6	Percentage of total sales volume of consumer products, by product category, that are lower in saturated fat, trans fats, sodium and added sugars	108 f.	●
FP7	Percentage of total sales volume of consumer products, by product category sold, that contain increased fiber, vitamins, minerals, secondary plant compounds or functional food additives	108 f.	●

● completely fulfilled ◑ partially fulfilled

Imprint

WARSTEINER BRAUEREI Haus Cramer KG
Domring 4–10 · 59581 Warstein
Phone: +49 (0) 2902/11-1799
Email: presse@warsteiner.com

www.warsteiner-gruppe.de

Responsible for editorial content: Stefan Leppin
Email: sleppin@warsteiner.com

Consulting: Tom Veltmann, HP-FundConsult

Editors: Stefan Leppin, Benedikt Hartmer, Christiane Willeke

Image editors: Jana Meißner, Petra Müting, Hubertus Struchholz

Design: Carsten Themar

Litho: AlsterWerk MedienService GmbH

Translation: Cornelia Jaeger

Image sources:
Page 13: Prof. Dr.-Ing. Jan Schneider
Page 51: Otto Lindner
Page53: shutterstock.de
Page 57: Thomas Druivenga
Page 60: shutterstock.de
Page 83: Dr. Rudolf Michel