



SUSTAINABILITY REPORT 2015/2016



CONTENT

01 COMPANY PROFILE	4
02 SUSTAINABILITY STRATEGY AND MANAGEMENT	12
03 VALUE CHAIN AND SUPPLIERS	18
04 PRODUCTS AND CUSTOMERS	26
05 EMPLOYEES	34
06 SOCIAL RESPONSIBILITY	40
07 STAKEHOLDER DIALOGUE	44
08 ABOUT THIS REPORT	50



WE WORK SUSTAINABLY AND HAVE DONE FOR 222 YEARS!

Dear business partners and friends of our company,

When Johann Barth founded Barth & Sohn with his son Georg in 1794, he could not have foreseen that the company would still be run by his family eight generations later. Through conscientious business policy and close personal contact with its hop suppliers and brewery customers around the world, Barth has succeeded in becoming the most important provider of services related to the strategically important raw material, hops. As a family company, it has always been important to us to shape our future in keeping with our obligation to our forefathers and the generations to come. These centuries-old sustainable business practices are now expressed in our new seal: "Sustainable – since 1794."

We are very pleased to be able to share with you our third Sustainability Report. It has a new design and is available for the first time in print and online versions.

One of the key aspects of the report is the change to the new Global Reporting Initiative (GRI) reporting standard 4.0. As the intensive dialogue we conduct with all our stakeholders had already been covered extensively in our previous reports, meeting the requirements of this important update to the GRI standard was unproblematic. The same is true for the identification of issues relevant both to these stakeholders and to us as part of a materiality analysis.

We report on the initial success of our "Ideas for Barth" platform. This tool has spawned sustainability projects, many of which have already

been implemented. Examples include the reallocation of a significant proportion of our shipments from the road to the rails and the reduction of business-related air travel through the introduction of online meeting software.

Alongside a series of further highlights, we note the achievement of two central aims stated in our previous reports. The publication and implementation of a "Code of Conduct" and the introduction of our customer management system are important elements on our way to greater transparency and even more intensive dialogue.


Together with our sustainability team we will continue to work to educate our employees on the challenges of sustainable working practices at all levels of our company, and also to gradually involve the other members of the BARTH-HAAS GROUP in these activities. A first visible success is the publication of a Sustainability Report by John I. Haas, Inc. in the United States.

Currently, two large and ambitious projects to reduce our "ecological footprint" have been initiated: the renovation of our company headquarters in Nuremberg on the basis of new findings on ergonomics, climate and energy, and the relocation of the NateCO₂ hop extraction plant from Wolnzach to St. Johann.

All that remains is for us to wish you an interesting read, and we look forward to working together with you in the future for sustainable success.

The Board of Management – Nuremberg, July 2016



In order to save resources, we have decided to condense the printed version of this report to the essential information. Sections of the report for which further content is available are marked with the symbol  and can be accessed in their entirety at the following URL: www.barthhaasgroup.com/en/sustainability



FOUNDED IN THE FRANCONIAN TOWN OF BETZENSTEIN IN 1794, IT WAS NOT LONG BEFORE THE COMPANY MOVED TO NUREMBERG, THE CENTRE OF THE EUROPEAN HOP TRADE AT THE TIME.

01

COMPANY PROFILE



**CORPORATE IDENTITY
AND BUSINESS ACTIVITIES**
WHO WE ARE AND WHAT WE DO.



**MILESTONES IN
THE COMPANY'S HISTORY**
WE HAVE BEEN SETTING STANDARDS
IN THE INDUSTRY FOR 222 YEARS.



COMPANY MISSION STATEMENT
WHAT WE BELIEVE IN AND WHAT WE ASPIRE TO.



ECONOMIC
OUR CONTRIBUTION IN THE RIGHT PLACES.

CORPORATE IDENTITY AND BUSINESS ACTIVITIES

WHO WE ARE AND WHAT WE DO.

JOH. BARTH & SOHN GMBH & CO. KG IS PART OF THE BARTH-HAAS GROUP.

The BARTH-HAAS GROUP is made up of several privately owned family companies. With around 100 employees, Joh. Barth & Sohn is a modern family-owned enterprise managed by the 7th and 8th generations of the founding family. Staying true to the motto, "That which you inherit from your fathers, you must earn in order to possess", the shareholders of every generation have each made their contribution.

THE BARTH-HAAS GROUP OPERATES WORLDWIDE IN THE FOLLOWING AREAS:

- Hop production and breeding
- Hop processing
- Hop and hop product marketing
- Hop storage and logistics services
- Research and development for all areas of application involving hops

Hops are our world. We have developed from a hop marketer into a provider of services centred on hops as a raw material. Not only do we sell hop varieties and products – we create and produce them, too. It is important for us to constantly expand our hop and beer knowledge, as it is only by doing so that we are able to systematically expand the potential uses of hops through targeted innovations. This additional expertise in research and innovation makes us the best adviser for the brewing industry and craft beer scene.

With the most diverse product portfolio in the industry and with highly efficient, quality-oriented processing plants in all major hop-growing regions, Joh. Barth & Sohn has always been a reliable partner for its customers, making an important contribution to their hop supply security and to their economic success. Thanks to our presence on every continent, we can always be where our suppliers and customers are.

BECAUSE YOUR BEER IS OUR PASSION.

YOUR BEER – OUR PASSION!





While hops used to be added during beer production in their original form (as cone hops), today it tends to be chiefly hop products that are added. Here is an overview of our product portfolio, with more information available online.

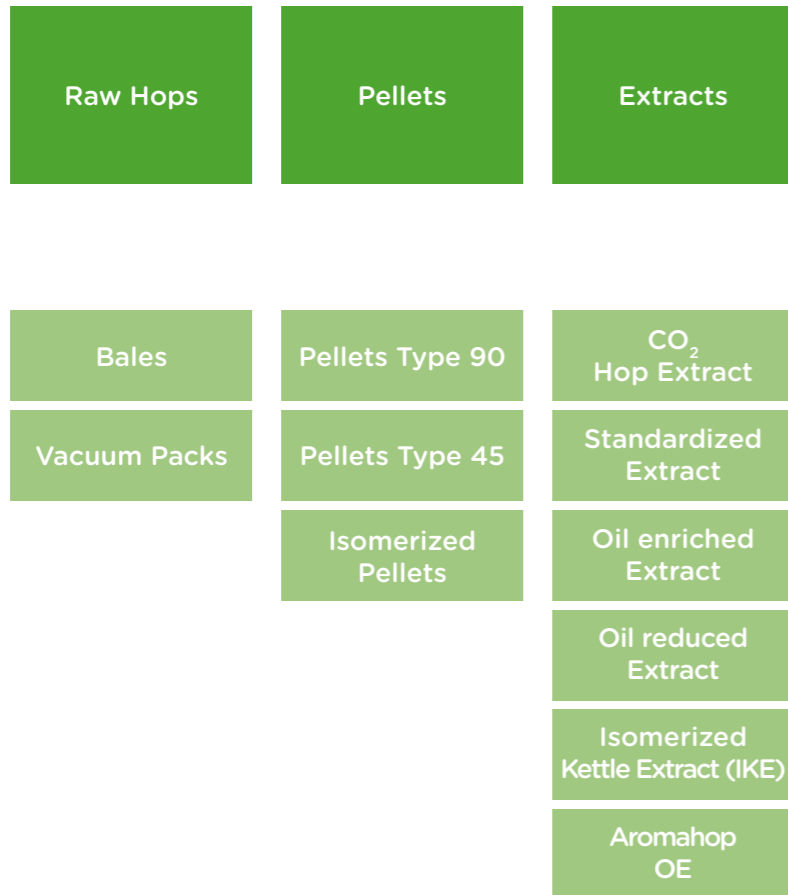
The hop (*Humulus lupulus*) has been cultivated for centuries and is an important raw material for breweries. More information on this special cultivated plant is available online.



BARTH-HAAS PRODUCT PORTFOLIO



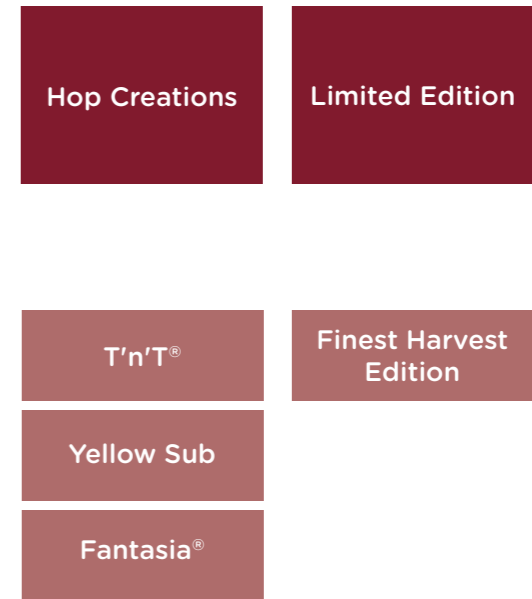
CLASSIC PRODUCTS



ADVANCED PRODUCTS



CREATIVE PRODUCTS





MILESTONES IN THE COMPANY'S HISTORY

WE HAVE BEEN SETTING STANDARDS IN THE INDUSTRY FOR 222 YEARS.

Joh. Barth & Sohn's reputation as an innovative trading house stretches back as far as its early days. In the 19th century it developed what were known as "wire hats" for drying raw hops more thoroughly, and it was the Barth company that pioneered the use of the "tin canister" for shipping hops overseas. In addition, the hop experts at Barth recognised even then the importance of

documentation and statistics for a market. In 1877 they published the first BARTH REPORT, a standard reference work that to this day regularly provides the entire sector with key figures from the hop and beer industries. The innovative and progressive nature of the BARTH name is evident from the very beginning. It continues through a series of milestones right up to the present day:

A facility for **hop extraction using methylene chloride** is established in collaboration with English partners in Wolnzach. At the end of 1960s Joh. Barth & Sohn acquires a share in the company Hopfenveredlung Dr. A. Müller & Co. which at the time holds the patent for **enriched hop powder (Type 45)**.

1960s

LATE 1950s / EARLY 1960s

English and Belgian **bitter hop varieties (Northern Brewer and Brewers Gold)** are introduced for the first time in the Hallertau region. In 1958 Joh. Barth & Sohn introduces the multi-year fixed-price contracts (already common in the USA) into Germany. These contracts have since become established and are to this day the principal hop marketing instrument for growers and brewers.

EARLY 1970s

The world's most modern **methylene chloride extraction** facility of its time opens in Wolnzach. The Wolnzach facility develops an exemplary standard in which the residual methylene chloride solvent content is several times lower than the legal tolerance.

1980s

At the start of the 1980s efforts are significantly stepped up to introduce **high-pressure extraction** using supercritical carbon dioxide (CO₂). In 1985 the first high-pressure extraction plant goes in to production in Wolnzach, followed quickly with a second in 1988. Subsequent expansions raise the solvent-free extraction capacity to approx. 50 tonnes of pelletised raw hops per day.

1990s

1992 sees the commissioning of a new processing plant for **type 90 pellets** at the St. Johann facility and the doubling of capacity for **type 45**. This makes it the world's largest and most modern **pelletisation plant**. **Type 30** is introduced in 1994. In the mid-nineties large cold storage facilities are added with a storage capacity of approx. 10,000 m² for pellets and raw hops – a capacity previously known only in the USA. At this time, Joh. Barth & Sohn acquires a majority holding in **Wigan Products Ltd**, a UK-based company specialising in **advanced hop products**.

2000s

1997 sees the introduction of the new **RB-60 rectangular bales**, in the development and promotion of which Joh. Barth & Sohn played a substantial part, to replace the traditional and bulky farmer's bales. The company has also been involved in **phytopharmaceutical extraction** for a long time. These activities, including the engineering, are brought together in the company NATECO₂. In addition, a **research brewery** with its own training centre is established in **St. Johann**. This allows us to offer our customers the possibility to commission research and have specific projects conducted according to their specifications. In the mid-1990s the group becomes active in China. This period sees the founding of **Green Diamond Hops (GDH)** and **Gansu Tianma Hops Co. (Flying Horse Hop Company, FHH)**. Both companies devote their activities to the predominantly domestic trade in Chinese hops and have their own pellet plants.

In 2000, Joh. Barth & Sohn merges with **Hopunion Raiser Scharrer KG**. Following the takeover of another British company, **English Hop Products (EHP), Botanix Ltd.** is established in 2001. In 2002 **Regine Barth** becomes a **managing partner**, which requires the outdated company statutes allowing only men in management positions to be amended. In 2006 the **BARTH-HAAS (Beijing) Trade Co.** is founded in Peking, as a result of which the BARTH-HAAS GROUP is able to offer the most extensive product range in the hop industry in China, too. In 2007 the BARTH-HAAS GRANTS are initiated. These grants provide support for scientific papers and projects concerning innovative hop research. In 2010 Green Diamond Hops (GDH) relocates to Hutubi. Following decades of development and expansion, the BARTH-HAAS GROUP now has **laboratory capacity for plant protection agent analysis** that is unparalleled in the industry.

SINCE 2010

Barth Innovations Ltd. is founded as an innovation and service centre for the R&D requirements of the European companies belonging to the BARTH-HAAS GROUP. In addition, the **BARTH-HAAS HOPS ACADEMY** is born. It offers knowledge transfer to participants (customers, students, etc.) through an extensive range of courses on all hop-related subjects. In 2012 Joh. Barth & Sohn is the first company in the hop industry to introduce an analysis guarantee – the **BARTH quality control guarantee** verifiably certifies that all hops and hop products marketed by BARTH have been analysed for plant protection agent residues. The BARTH HOPS ACADEMY is established the same year. As a counterpart to the BARTH-HAAS HOPS ACADEMY, it offers training courses on all aspects of hop growing to the growers who supply Joh. Barth & Sohn. This serves not least as a means of teaching growers about the constantly increasing requirements of customers in the brewing industry worldwide. The company's first **Sustainability Report** is also published in 2012.



OUR VISION
WE ARE THE HOP EXPERTS FOR THE BEST BEERS IN THE WORLD.

COMPANY MISSION STATEMENT

WHAT WE BELIEVE IN AND WHAT WE ASPIRE TO.

OUR MISSION

We imaginatively, competently and reliably combine professional advice with the most attractive hop portfolio. That's how we ensure the success of our customers and suppliers.

OUR PHILOSOPHY

Our customers and suppliers are the basis of our business. It is our self-evident duty to treat people in a respectful and competent manner.

We are both demanding and supportive of our employees. We want to be and remain an attractive employer for them.

Economic success is the result of our employees' consistent commitment to performance in all areas of the company and the collaboration with our partners throughout the value chain.

We always observe the prevailing individual, social and legal norms and environmental standards in all our areas of activity.

Sustainability is a key value in everything we do. We actively protect the environment and support the society in which we work and live in many different ways.

As a family-owned company, we also shape our future in our obligation towards our forefathers. Our corporate culture is an outward expression of this responsibility.

We have created and implemented a Code of Conduct, which was the goal we defined in our last Sustainability Report. With these behaviour policy guidelines, we make our employees aware of ethical and sustainability-related issues. We give them security by properly expressing our expectations of their behaviour.

OUR VALUES

We work in a solution-oriented manner. We identify problems by looking ahead. As competent employees of Joh. Barth Et Sohn, we develop the right solution for ourselves, our customers and suppliers at all times, based on our own initiative and taking a structured approach!

We act with a sense of responsibility. We accept our responsibility towards society, our customers, our suppliers and our colleagues. As a matter of principle, we act prudently in all situations. When it comes to realising our objectives we implement them with vigor. We achieve this by acting independently and decisively in our daily work. This gives us credibility in the eyes of our customers and suppliers.

We are team players. Our helpful and respectful attitude in our dealings with customers, suppliers and colleagues creates a foundation for delivering all that is asked of us. We are adaptable and dependable at all times!

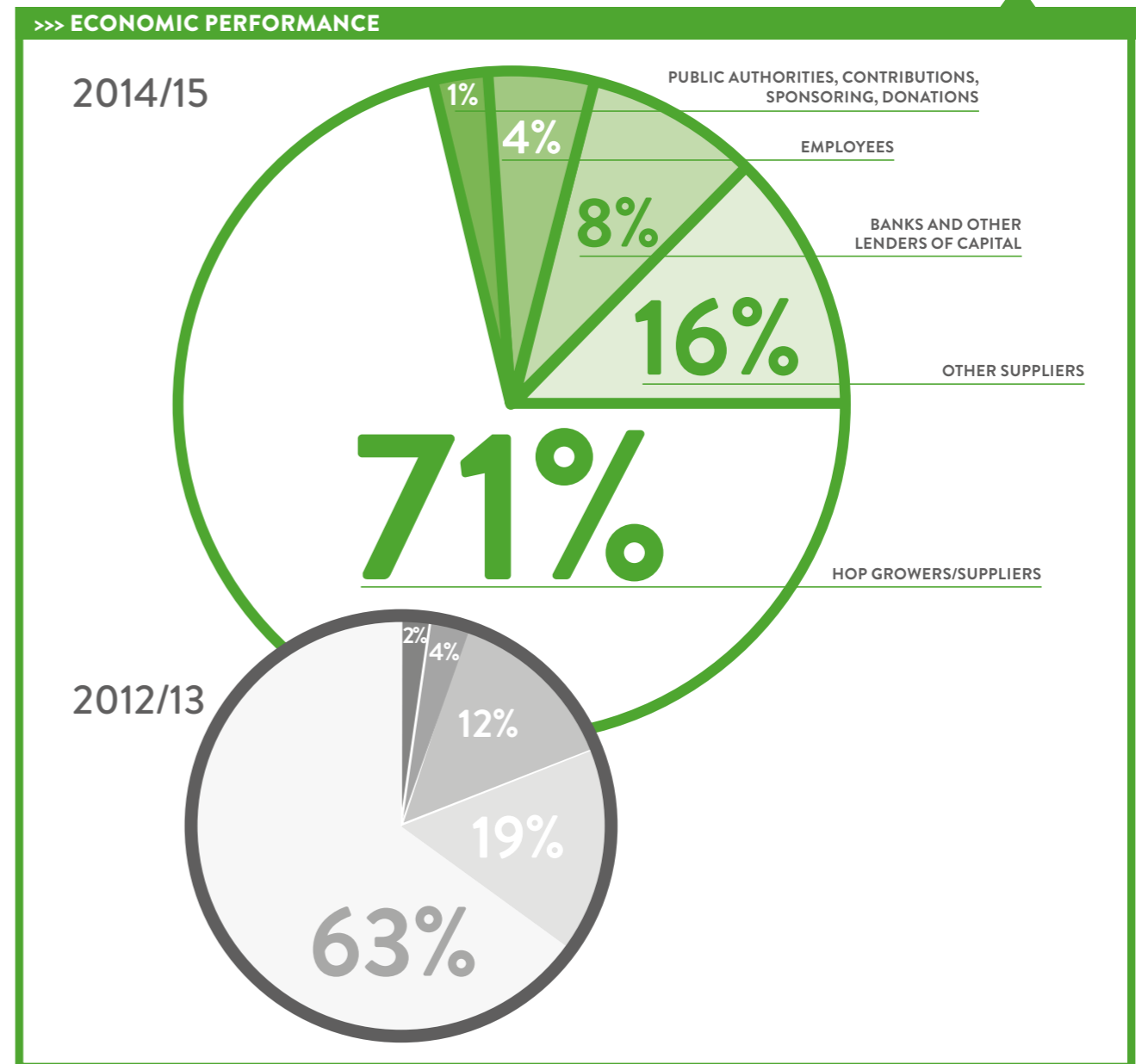
We treat others with respect. For us, that means being open-minded. This applies both to new ideas regarding working methods, products and technologies and to our interaction with each other. We empathise with the needs and interests of our partners and colleagues. We communicate clearly to ensure we understand each other and that we are able to resolve any conflict. As a result, we are able to constantly develop ourselves and our services in collaboration with our partners.

ECONOMIC

OUR CONTRIBUTION IN THE RIGHT PLACES.

Our economic performance in the 2014/15 fiscal year underlines once more our stable and sustainable economic strategy. Compared with the recent Sustainability Reports, the economic distribution amongst our

stakeholders has remained virtually unchanged. The increased proportion for growers can be explained primarily by the exceptionally good harvest in 2014.



The largest part (71%) of the company's total income went to our raw materials suppliers (growers) as material costs.

8% of the company's total income was received by banks and other lenders of capital and by other suppliers and 16% by service providers (value-chain partners).

4% of the company's total income went to employees in the form of wages, salaries and pension provisions, while 1% went to public

authorities, the local community and the education system (contributions, sponsoring, donations).

Employees receive support in the form of additional social benefits on a case-by-case basis, if required, as they do equally in their voluntary social activities. In the year under review, Joh. Barth Et Sohn did not receive any financial grants, such as subsidies, from the public purse.

As a local employer, buyer and investor, Joh. Barth Et Sohn promotes economic, social and societal progress at its company locations.



02

SUSTAINABILITY STRATEGY AND MANAGEMENT



**SUSTAINABILITY:
DEFINITION – STRATEGY – MISSION**



MATERIALITY
WHAT'S IMPORTANT TO US AND OUR STAKEHOLDERS.



AREAS OF ACTIVITY
THE CORRECT APPROACHES FOR SUSTAINABLE RESULTS.



MANAGEMENT SYSTEMS
ACTIVE MANAGEMENT FOR FUTURE SUSTAINABILITY.



OUR SUSTAINABILITY TEAM
WHEN IT COMES TO SUSTAINABILITY, WE WORK HAND IN HAND.



SUSTAINABILITY: DEFINITION – STRATEGY – MISSION

For us, sustainability means conducting our business activities under the conditions of environmental and social responsibility. We are convinced that sustainable business practices lead to the long-term increase in the value of our company. Instead of growth at all costs, we pursue **sustainable, high-quality growth – for this generation and for those to come.**

OUR STRATEGIC INTENTION:

We want to offer our stakeholders **"added value"**. In doing so, we emphasise quality, innovation and advice. This allows us to offer the best possible value for money, both for our customers and our suppliers. We are also aware of our role as part of society and support social concerns wherever it is possible for us to do so. We take into account environmental aspects in all areas of our activity, and our primary aim is to reduce our **"ecological footprint"** wherever possible in all that we do.

As a global leader in hops trading, we see our role in terms of sustainability in assuming responsibility for the **entire value chain**: from the cultivation of the hops to their further processing and storage and on to their worldwide distribution to our customers.

The continuous improvement of our processes and structures, coupled at the same time with the reduction of our resource consumption and our environmental impact, is the central theme of our sustainability efforts.

Ever since the company was founded, Joh. Barth & Sohn has always succeeded in making recognised contributions to the further development of both the hop and brewing industries by improving products and processes throughout the entire value chain.



MATERIALITY

WHAT'S IMPORTANT TO US AND OUR STAKEHOLDERS.

Our stakeholders play a key role in the long-term economic success of our company. The most important stakeholders for us are our employees, our hop suppliers and our brewery customers. Associations, the authorities and the scientific community can also justly be considered our stakeholders. In Chapter 08 of this report, you can find an extensive description of the intensive dialogue with our external and internal stakeholders. We have used these long-established relationships, characterised by intensive exchange of experiences, to identify those sustainability areas that are

material to our business and other activities. All available details of stakeholder dialogues have been analysed during the regular meetings of our sustainability team. As part of this process, we were able to assess the areas identified as material in terms of their relevance, from the point of view of the stakeholders and of Joh. Barth & Sohn. The following materiality matrix provides an overview of these areas. The topics for this report were selected on the basis of these findings.



AREAS OF ACTIVITY

THE CORRECT APPROACHES FOR SUSTAINABLE RESULTS.

Since the publication of our first report in 2012, we have concentrated on implementing our sustainability strategy in the following areas of activity, which also represent **material development trends** in our industry:

- Complaint-free and sustainable products and services
- Health and safety
- Reduction of environmental impact
- Increase of efficiency of input material consumption (raw materials, energy, water)
- Enhancement of our contributions to society

In all of these areas we promote sustainability in our business activities, with projects and other measures, along the entire value chain.

Furthermore, our aim in the medium term is to involve all the companies in the BARTH-HAAS GROUP in a **group-wide** Sustainability Reporting system.

The publication of the first Sustainability Report by our American partner company John I. Haas, Inc. in January 2016 was an important first step in this regard.

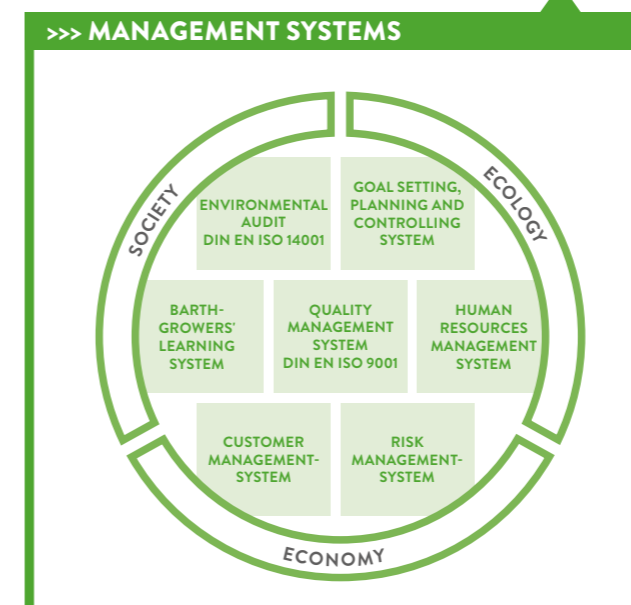


Sustainability Report John I. Haas PDF-Download



MANAGEMENT SYSTEMS

ACTIVE MANAGEMENT FOR FUTURE SUSTAINABILITY.



In the reporting standards as defined by the new GRI G4 Guidelines, there is a strong focus on the description of management approaches used in a company. For many years now, management systems have been an indispensable tool for the sustainable organisation and management of the company.

Therefore existing management systems have already been described in the first two Sustainability Reports. During the period under review, our risk management system was completely revised, while another important management tool, our customer management system, was also introduced.

Joh. Barth & Sohn thus has at its disposal a range of management systems to ensure that the company's performance meets its own expectations as well as those of its stakeholders. They serve as a set of tools to help shape company activity in response to external influences reliably, qualitatively and efficiently. We regularly take the opportunity to orient these to the requirements of sustainable management.





OUR RISK MANAGEMENT SYSTEM

"We want sustainable, profitable and healthy growth at an acceptable risk!"

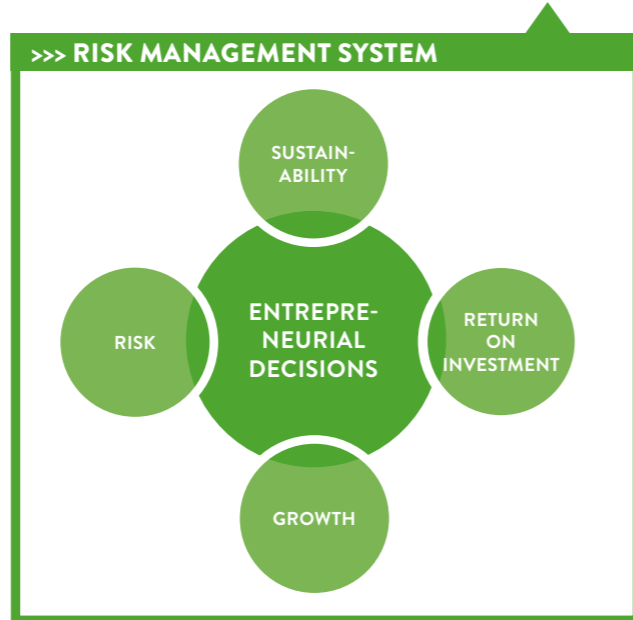
For years we have conducted our business according to this quote by Arnold Weissman. It makes clear just how closely linked sustainability, risk and entrepreneurial behaviour are.

We have expanded our existing risk management in order to confront the increasing number of risks in the global economy and meet the resulting legal requirements and the demands of the banks and auditors.

To that end, we have introduced recognised risk management software in our company. The software contains modules that provide solutions for structured identification, assessment and monitoring of company-specific risks.



Joh. Barth & Sohn's risk profile is examined, analysed, assessed and then presented to the management board on an annual basis.



CUSTOMER RELATIONSHIPS BUILT ON TRUST

We are conscious of the fact that we will only be successful if we enable our customers to operate successfully in the beer market. We have used this awareness to create many notable services that allow us and our customers to stand out from the competition.

Examples include:

- Storage and logistic concepts
- Cataloguing of the aromas and flavours of all hop varieties: the Hop Aroma Compendium Volumes I to III and an annual variety guide
- Recipe development at our ABrewCalypse Now! experimental facilities (Nuremberg) and the St Johann pilot brewery
- Creative hop compositions (in the Creative Products product category)
- Advice about the efficient and effective use of hops and hop products from six qualified brewery technologists
- Training and qualification of our entire field sales force and technical sales support team for the Beer Sommelier Diploma (Doemens), in 2013



OUR CUSTOMER MANAGEMENT SYSTEM

In order to allow us and our customers to constantly drive forward the improvement process, we developed a management system that divides our customers into different customer groups.



This helps us ensure that we can offer a range of services tailored to the

needs of each customer group and optimise the sales channels for each segment. The criteria used in the segmentation process include average hop dosage, willingness to innovate, interest in new hop varieties and products, etc. Particular consideration is also given to the customer's willingness to promote sustainable and stable hop cultivation by means of long-term contracts.

OUR SUSTAINABILITY TEAM

WHEN IT COMES TO SUSTAINABILITY, WE WORK HAND IN HAND.

To implement our sustainability strategy in each of our individual areas of activity, we need useful organisational and methodical support.

On the basis of our value foundation, we are using our existing management systems for this purpose and are continuously and systematically expanding, adapting and improving them with regard to sustainability requirements.

MANAGEMENT BOARD

The management board of Joh. Barth & Sohn assumes overall responsibility for sustainability policy and also aligns the business policy with the requirements of sustainable and socially responsible business practices.

"CHIEF SUSTAINABILITY OFFICER" (CSO)

The management board delegates responsibility for sustainability management organisation to the Chief Sustainability Officer. This person leads the sustainability team and is responsible for initiating, implementing and monitoring sustainability goals and projects.

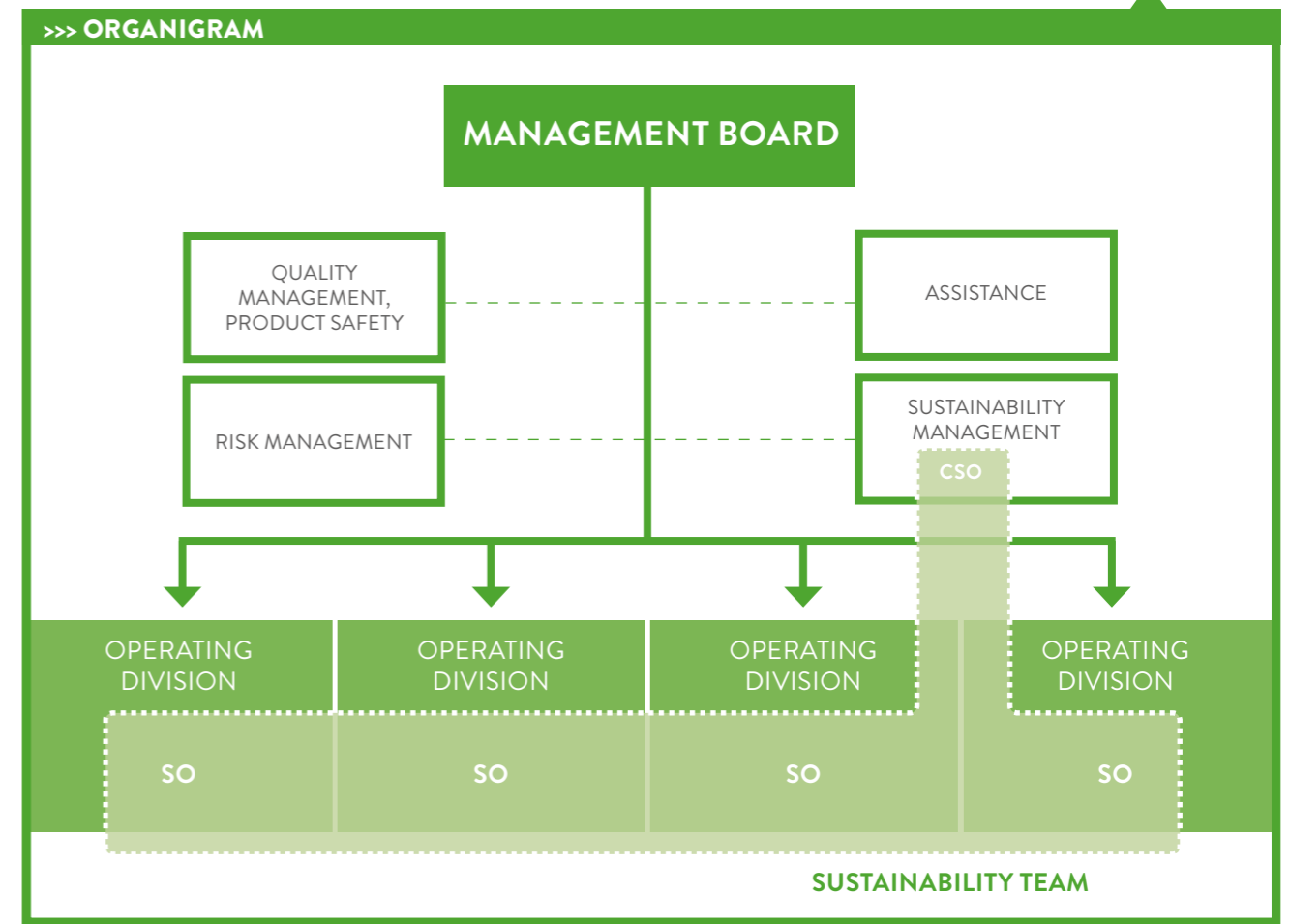
The CSO reports to the management board on the status of the projects and achievement of objectives on a monthly basis.

"SUSTAINABILITY OFFICERS" (SO)

In conjunction with the CSO, each operating division has appointed its own sustainability officer (SO). This person is responsible in their respective area for the implementation of the projects and measures to be carried out within the framework of the sustainability strategy.

"SUSTAINABILITY TEAM"

As a central decision-making committee chaired by the CSO, the sustainability team steers the (global) implementation of the Joh. Barth & Sohn sustainability strategy. The members of the sustainability team are the SOs, representing the company's various operating divisions. The sustainability team coordinates the activities in the company's operating divisions, the central functions and the regional companies.





03

VALUE CHAIN AND SUPPLIERS

WE HAVE ALREADY ACHIEVED SEVERAL GOALS RELATED TO THE VALUE CHAIN AND SET OURSELVES SOME NEW ONES.



VALUE CHAIN

WHEN EVERYONE IS PULLING IN THE SAME DIRECTION.



PURCHASING PHILOSOPHY

TRUST-BASED, LONG-TERM COOPERATION.



BARTH GROWERS' LEARNING SYSTEM

PROGRESSING TOGETHER. CONSTANTLY IMPROVING.



ENVIRONMENTAL INDICATORS

FIGURES. DATA. FACTS.

VALUE CHAIN

WHEN EVERYONE IS PULLING IN THE SAME DIRECTION.

The hop industry's value chain includes many protagonists and processes. This results in various interfaces that may have an effect on sustainability. Thanks to our company's development from a marketer to a provider of hop-related services, the range of approaches we can adopt to create added value for our customers and simultaneously reduce our ecological footprint have increased.

Thanks to our strategic cooperation with growers, customers and service providers, we are able to implement direct and indirect measures to drive sustainability development throughout the entire industry.

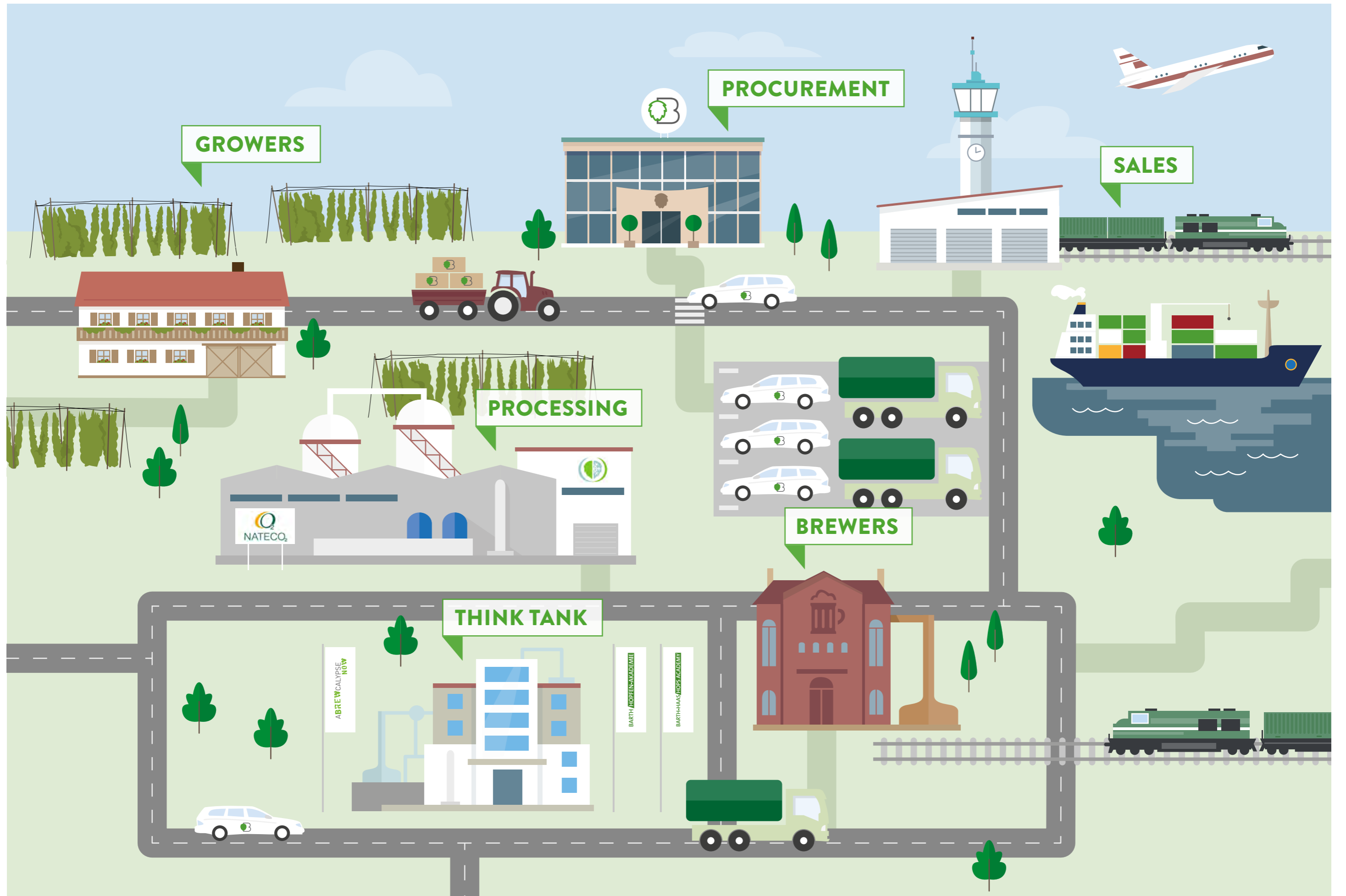
Through measures such as the BARTH growers' learning system we are able to make hop growers consider issues of sustainability more fully, thereby ensuring that all growers engage in sustainable production. Our Purchasing department is also a key contributor to the creation of a practical sustainability system for hop growing in the working group "Sustainability in Hop Growing" led by the growers' association "Hopfenring".

Besides product and quality provision, our measures at customer level are concerned primarily with logistics. By reducing the logistical complexity of raw material procurement, we are able to protect the environment and at the same time ensure better security of supply for brewers. It is also important to meet our customers' requirements in terms of sustainability. The Sales department is responsible for communicating specific customer

requirements in this regard, coordinating audits, and generating the necessary data and documentation.

Between the growers and the brewers, raw hops must be processed into various hop products. The cone hops are pelletised at our hop processing plant Hopfenveredlung St. Johann GmbH & CO. KG, while any subsequent CO₂ extraction is done at NATECO₂ in Wolnzach. We are constantly looking for ways of minimising the impact on the environment of the production processes in our plants. This includes using operating materials with the most neutral ecological balance and greatest efficiency possible and also realising projects such as a heat recovery system that was installed during the period under review.

Our think tank, which addresses all parties involved in the value chain, is an important factor for our sustainability. The think tank is the collective term for our skills in research and innovation and our expertise and advice. The performance of our think tank enables us to stand out from the competition and provides strong sustainability drivers. On the one hand, we are able to create better, more sustainable products through our own research and development. On the other, our active involvement in the scientific field and institutions helps us maintain intensive stakeholder dialogue up and down the supply chain, as we are able to share our findings with growers and customers through our advisory service.



PURCHASING PHILOSOPHY

TRUST-BASED, LONG-TERM COOPERATION.

Our purchasing philosophy focuses on the development of trust, on partnership and on a long-term approach in our cooperation with our growers. We consciously invest in our relationship with our most important suppliers and aspire to become their long-term partner, rather than a short-term buyer. This is because it is only through long-term collaboration that both parties can set and achieve common goals. The focus here is not only on the individual advantages for both parties, but rather and above all on sustainability and on jointly developing the industry. With regard to our purchasing philosophy, partnership in practice means maintaining our position on the market with care and vigour in close collaboration with our growers – and thus playing a proactive role in shaping the future of hops and, with it, the success of our growers' operations. We are well aware that in today's market conditions there is constant

competition for hop growers – especially for those who act very flexibly and display a high degree of initiative. That is why we make intensive efforts to be attractive to our hop growers as a customer and to remain so. We hope to achieve this by becoming better together with our growers as a "value chain" and by offering them very special added value for their farms. It is essential for us to understand our growers' potential and their value creation conditions and at the same time establish good relationships based on partnership. We developed the **BARTH growers' learning system** to systematically continue this process of getting to know and understand our growers. Tools such as the Growers' Advisory Board, the BARTH Hops Academy and also our measures to ensure supplier retention are designed to generate benefits and expand skills.

BARTH GROWERS TOURS



Hop growers from Tettngang in the Boston Beer Company's brew house

BARTH SCHAFKOPF TOURNAMENT

The **Barth Schafkopf tournament** took place for the fifth time in 2015 under the banner of social sustainability. It is organised exclusively for hop growers. Entry for the tournament is free of charge and the winners pick up high-quality prizes and an award. This incentive, combined with the prospect of an entertaining evening, ensures a large number of entrants each year.

BARTH GROWERS' LEARNING SYSTEM

PROGRESSING TOGETHER. CONSTANTLY IMPROVING.

The BARTH growers' learning system is a management concept that lays emphasis on the hop growers' responsibility for the productivity and capacity for innovation of the whole value chain. The aim of this concept is to create an even closer relationship with the strategically important growers, to further develop their potential and also to gain new growers for us. By maintaining and emphasising the long-term customer-supplier relationship and offering specialist advice, the BARTH growers' learning system succeeds above all in persuading growers to implement the concept of sustainability in practice.

Other aims of the system are a better exchange of information on technical questions, more efficient processes and the avoidance of conflict. We want close cooperation with the growers to provide us both with flexibility and increase our shared agility versus the competition.

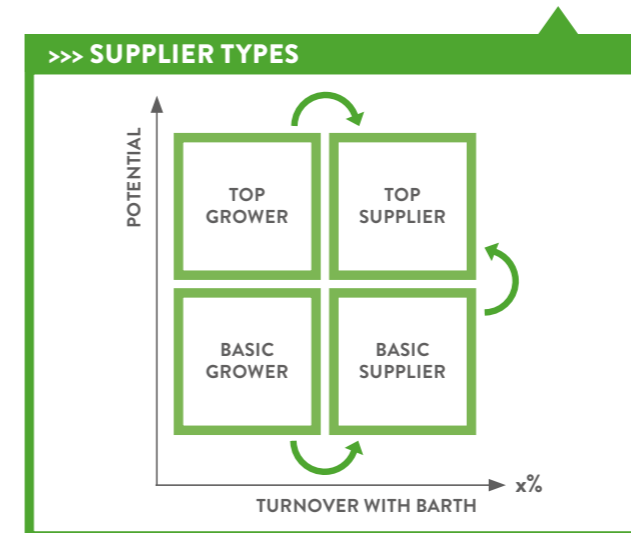
The BARTH growers' learning system can be used to systematically categorise suppliers and assess their performance in order subsequently to jointly adopt measures for grower development so that they develop a sustainable attitude. To achieve this, the concept has to be equipped with useful tools which the hop growers can recognise as containing added value for them and which, if possible, should be quantifiable in financial terms.

SUPPLIER TYPES

The basis for the system is the categorisation of hop growers according to their **current turnover** and their **future potential**. This determines the different types of hop grower:

- Suppliers: turnover with Joh. Barth & Sohn is more than x% of their production
- Growers: turnover with Joh. Barth & Sohn is less than x% of their production
- Basic category: performance potential is below a defined value
- Top category: performance potential is above a defined value

In order to actively manage the development of our entire supplier portfolio, we have to know where a grower stands and where he wants to go. The aim is to use appropriate measures to develop the basic growers into basic suppliers and the top growers, as well as the basic suppliers, into top suppliers and to keep them at the highest level possible. The BARTH growers' learning system describes the systematic development, care and controlling of our business relationships with the growers.



SYSTEMATIC POTENTIAL AND PERFORMANCE APPRAISAL

The assessment of a supplier's potential is carried out using various comprehensible weighted criteria whose values are defined on a scale and calculated in a scoring model. In 2015 the appraisal criteria were expanded to include the component "sustainability". What is known as a **supplier number** is used for identification purposes and serves as a simple and quick way to describe which supplier category the grower is assigned to.

Potential and performance appraisal and the resulting categorisation were last carried out in 2015.

MEASURES FOR SUPPLIER DEVELOPMENT AND RETENTION

The supplier number and the supplier relationship dimensions provide initial indications as to which measures are suitable for supplier development. We compile a suitable package of measures for our suppliers in accordance with the current supplier profile. There is a comprehensive and sophisticated range of measures, including:

- **Information tools** (e.g. BARTH growers' portal on the Internet, BARTH fax, BARTH growers' advisory board)
- **Advisory services** (advice from our knowledgeable purchasing experts on all areas of hop production)
- **Cultural and social measures** (e.g. BARTH Schafkopf tournament, organised growers' tours to international hop-growing regions)
- BARTH Hops Academy **training courses**

CONTINUOUS FURTHER DEVELOPMENT REGARDING SUSTAINABILITY

Systematic development and cultivation of the different qualities in our suppliers means:

- Creating **performance profiles** and
- **Regularly assessing** the effectiveness of the agreed measures

We are convinced that this will enable our core values and our standards to be transferred to our suppliers in order to enhance their awareness for sustainable working practices.

Joh. Barth & Sohn has been a member of the German hop industry's **working group for "Sustainability in Hop Growing"** since 2012. In this group chaired by the growers' association "Hopfenring" we have actively participated in creating and defining the sustainability criteria for German hop growing. The system for verification and review of sustainability developed by the working group was first used in crop year 2014 as part of a pilot project with German hop growers. The basis for the sustainability self-check for hop producers was provided by the criteria contained in the checklist of the SAI Platform (SAI = Sustainable Agriculture Initiative). This platform is used today by many leading international groups in the food and beverages industries.

Thanks to the communication tools we created, it was possible to provide growers with comprehensive information about this globally

unique sustainability concept in hop growing. We are certain that the competitiveness and future sustainability of the German hop industry will be strengthened by the introduction and participation of the growers.

In our last report we set ourselves the aim of developing internal data capture and information systems for our sustainability requirements. Since 2014 we have been able to assess the information obtained in order to use it for the analysis of supplier potential and visualise the availability of sustainably produced hops.

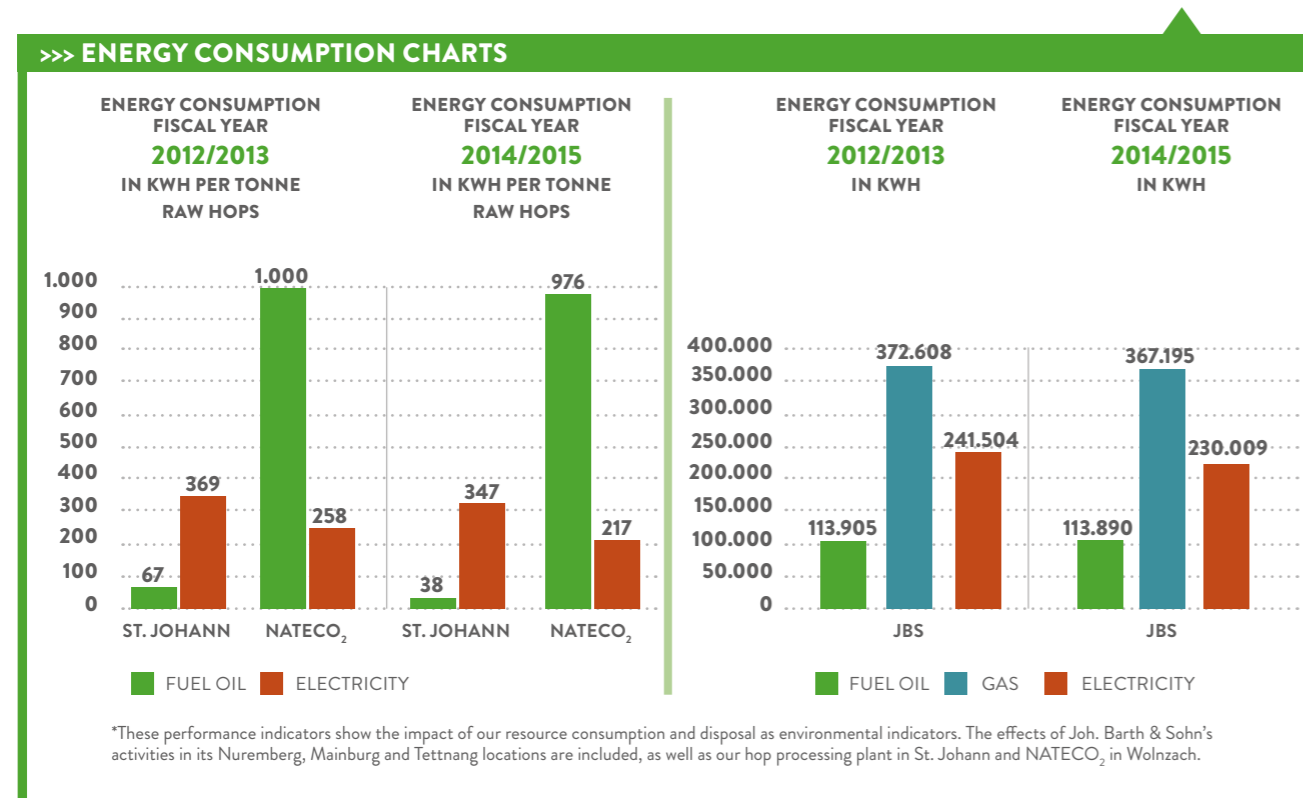
In 2014, 15% of our contract growers took part in the "Sustainability in Hop Growing" pilot project. This percentage rose in the following year to 33%, and there is already evidence of another considerable increase for the 2016 crop year. We see this as confirmation that the issue of "sustainability in hop growing" enjoys a high degree of acceptance and significance for our growers. This is a foundation on which we can build to further drive sustainable hop production.

OUR OBJECTIVES FOR THE YEARS AHEAD:

- Further improvement in methodology for measurability and data collection regarding "sustainable hop growing"
- Joint projects and initiatives for environment and energy projects
- Development of new and innovative concepts for sustainable supplier retention
- Active support for Hopfenring in the further development of the "Sustainability in Hop Growing" system.

ENVIRONMENTAL INDICATORS

FIGURES. DATA. FACTS.



ENERGY

The calculated consumption is shown according to the energy carriers on the one hand and according to where energy was consumed on the other. In contrast to previous reports, we have listed each of our processing plants individually. It should be noted that energy consumption is not only influenced by the quantity of raw hops

WATER

The total water consumption measured for Joh. Barth & Sohn amounted to approx. 3,408m³. The water consumption attributable to the processing plants was approx. 6,772m³. The water discharge volume at JBS is smaller than at the processing plants. As this refers exclusively to municipal water supplies, for the sake of simplicity we have assumed that all directly attributable waste

WASTE AND EMISSIONS

The total weight of **waste** recorded in the 2014/15 fiscal year was approx. 4,581t, of which 4,525t was caused by the processing plants. Waste disposal is handled exclusively by the municipal disposal service and by special service providers (e.g. for document disposal). Computer and electronic waste which occurs at irregular intervals was not taken into account. Directly produced wastes are almost exclusively recycled by the conventional municipal disposal service through recycling/reuse and through the waste disposal site and other forms of disposal. Indirectly produced waste was processed mainly via direct re-use and

"FROM THE ROAD TO THE RAILS"

In our last Sustainability Report we made it our aim to increase the proportion of shipments made by rail and reduce the use of lorries. Above all, this concerns the pre-carriage of loaded containers from the processing plants and warehouses in Southern Germany to the ports. The fact that pre-carriage normally requires more time by rail than by lorry has to be taken into account. This means very urgent shipments and deliveries during the summer – given that raw hops and hop

processed, but that it also depends on other factors such as the weather and product portfolio. Of particular note in this regard are the huge amounts of heating oil we were able to conserve thanks to our new heat recovery system at the St. Johann processing plant.

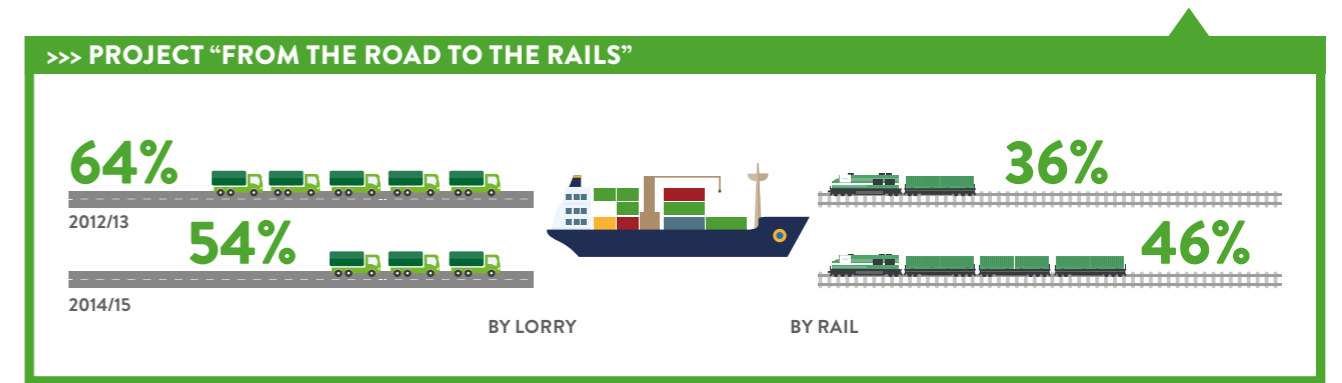
water (with the exception of water used for watering at our Nuremberg headquarters) returns to the municipal waste water disposal facility in the same quantity.

Waste water discharge attributable to the processing plants can be measured directly. It amounted to 3,893m³ in the 2014/15 fiscal year.

alternative use (e.g. spent hops used as animal feed) and by recycling/recovery performed by special service providers. Direct and indirect greenhouse gas emissions and other important air emissions (NO_x, SO_x) were not taken into account, as the recording techniques still need to be developed.

Although the environmental impact of the reporting organisation caused by the transport of products, materials and people is not recorded specifically, our guidelines point clearly in the direction of sustainability.

pellets are sensitive to heat – are excluded from this. Nevertheless, through good planning and prudent customer communication, we were able to increase the proportion of rail use from 36% to 46%. This success vindicates us in our pursuit of sustainability and motivates us to continue shifting our shipments from the road to the rails. Our aim is to increase the proportion of shipments by rail to at least 50% in the 2016/17 business year.



MANY OTHER PROJECTS AND ACTIVITIES HAVE ENHANCED OUR SUSTAINABILITY SINCE WE PUBLISHED OUR LAST REPORT:

CO₂ CONSUMPTION FROM GOODS TRANSPORT

In view of the high volume of goods we ship, we try to exploit fully both the available volume and the maximum permissible total weight of each goods vehicle in order to reduce the number of trips. Furthermore, we will increase our efforts to persuade our customers to place larger call-off orders in order to achieve more environmentally friendly shipments and conserve packaging material.

PAPER CONSUMPTION

Since September 2015 we have been using an Internet platform to make processing-related documents available in digital form so that we can process them jointly with our processing plants. We have also agreed paperless data transfer with the most important research laboratories.

ENVIRONMENTALLY-FRIENDLY ADVERTISING GIVEAWAYS

By deliberately choosing products that are useful and responsibly manufactured, we seek on the one hand to act in an environmentally friendly way ourselves and, on the other, to pass on this concept of sustainability to the respective recipients through the gift.





04

PRODUCTS AND CUSTOMERS



OUR “VALUE-ADDED” STRATEGY

ANYONE CAN ‘SATISFY’ THEIR CUSTOMERS – WE WANT TO DELIGHT OURS!



QUALITY MANAGEMENT SYSTEM

WHEN SYSTEMS INTERACT PROPERLY.



QUALITY CERTIFICATES

EVIDENCE OF OUR DILIGENCE.



PRODUCT SAFETY

SAFETY FIRST – THAT’S OUR GUARANTEE!



EXCITING NEWS

STANDING STILL IS NOT AN OPTION FOR US.

OUR “VALUE-ADDED” STRATEGY

ANYONE CAN ‘SATISFY’ THEIR CUSTOMERS – WE WANT TO DELIGHT OURS!

The explicit goal of our management board is to be the value proposition leader in our industry, i.e. to offer our customers the best ratio of price to performance. This involves a great deal more than simply delivering hops that give no cause for complaint: we consider it our duty to investigate everything worth knowing on the subject of hops and to place the knowledge we acquire at the disposal of our customers. In order to meet these aspirations, we have undertaken numerous initiatives in recent years which are based on the following principles:

ENTHUSIASM FOR OUR PRODUCT AND COMMITMENT TO THE SUCCESS OF ALL OUR CUSTOMERS

Since 2011, 3 volumes of the **Hop Aroma Compendium** have been published. In these reference works, we explain systematically and in a well-founded manner the aroma characteristics of hop varieties available worldwide. With these descriptions of a total of 125 varieties, we have been able to support our customers in making their products more interesting and more targeted.

As a natural product, the hop is subject to seasonal conditions: depending on the weather and other climate influences, the specific features of any given hop variety's aroma can develop slightly differently. Our exclusive **annual variety guide**, issued each year since 2014, solves this problem for our customers. We are able to give them everything they need to plan their hop usage on an annual basis and ensure they get the exact flavour results they want.

In 2011 we set up our **SIMPLY HOPS online shop** especially for those in the craft beer scene who love to experiment and for traditional small and home brewers. The entire BARTH-HAAS GROUP quality range, with all its varieties and products, is available to order simply and flexibly – even in the smallest quantities. (www.simplyhops.com)

SimplyHops.com



INNOVATION AND EXPANSION OF HOP APPLICATIONS

In 2010, **Barth Innovations Ltd.** was founded as a central R&D facility to pool our European research activities. Its aim is to develop hop products for known and new applications and give support to our customers on technical aspects of implementation.

The objectives of Barth Innovations Ltd.:

- To develop innovative, hop-based products, primarily for the global brewing industry
- To optimise manufacturing processes within the Group's companies
- To extend application-related and technical support for the use of our products
- To develop an R&D program relevant to the future needs of the BARTH-HAAS GROUP
- To intensify co-operation with universities and other institutions

Our **research brewery in St. Johann**, established in 1997, enables our customers to test their own creations. Additionally, in 2012 we installed a **micro-brewing facility** at our Nuremberg headquarters. This allows us to react even more flexibly and quickly to new developments in hop varieties, products and beer styles.

QUALITY AND PRODUCT SAFETY ARE OUR TOP PRIORITIES

- With innovative product development, professional advice and the best service, we are able to work across departments as a team not only to satisfy our customers, but to delight them, too.
- In its 222-year company history, Joh. Barth & Sohn has proved again and again what it means to be a reliable partner for the brewing industry all over the world and, even in difficult times, to remain true to the high standards we have set ourselves.

QUALITY MANAGEMENT SYSTEM WHEN SYSTEMS INTERACT PROPERLY.

For more than two decades, Barth has used a comprehensive Quality Management System (QMS) in line with the standardisation regulations of ISO 9001:2008. This QM system is fundamental to all relevant areas of the company. Our express goal is to continuously improve the quality of our products and services.

The QMS is the foundation for controlling and documenting all important processes. The QMS describes the methodology and supplies the tools used by our staff in their individual processes for ensuring

INCREASING EXPERTISE IN HOPS

The **BARTH-HAAS HOPS ACADEMY** was established in 2010 in order to create a better understanding of the complexity of the hop and its full potential. Having in-depth knowledge of the use and action of this special brewing ingredient enables the brewer to optimise process efficiency and develop distinctive, high-quality beers.

In a logical progression of the hops academy concept, in 2012 we founded the **BARTH HOPS ACADEMY**, which brought sustainability aspects to the attention of hop growers alongside production and business administration topics. This ensures, among other things, that our suppliers are aware of our customers' special requirements and can take appropriate action.

Our **Technical Sales Support** department has grown further and ensures that contacts are permanently available to answer our customers' technical questions – from the correct and efficient use of our products to developing entire beverage formulations.

This strategy is embedded in systematic and comprehensive **quality and product safety management** which extends along the entire value creation chain, from hop growing to hop processing and to the use of the products.

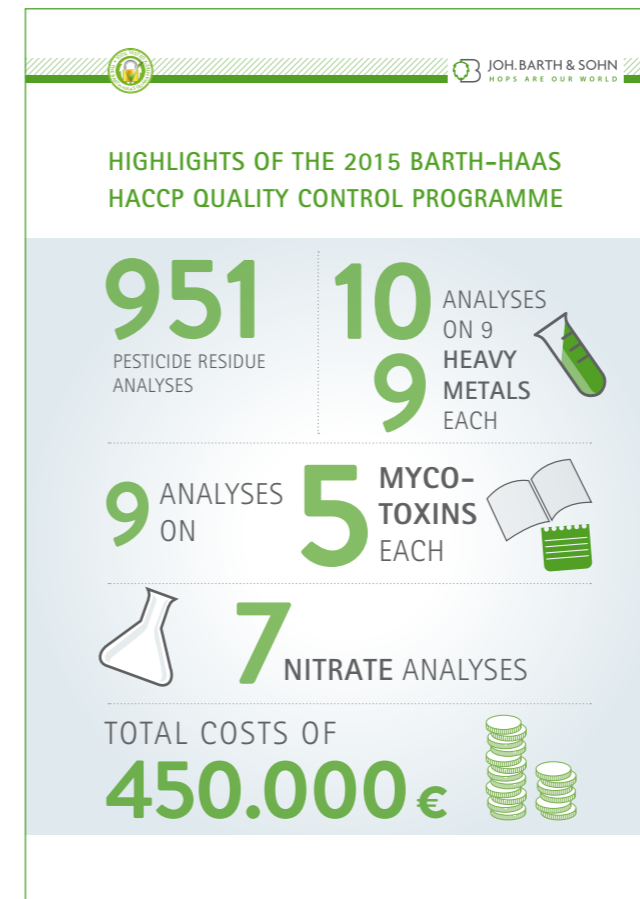
- Quality and product safety are the top priorities for Joh. Barth & Sohn: we guarantee that we will always deliver high-quality products and services. We work closely with our customers to find good solutions that are acceptable for both parties, even in difficult situations. This was the case in the past and will continue to be so in the future.

and improving quality. All the necessary documents and instructions can be accessed by each member of staff on our Intranet at any time.

In October 2015, as part of the recertification audit carried out by TÜV Süd every three years, it was confirmed that Joh. Barth & Sohn fulfilled all the QMS requirements according to ISO 9001:2008. In the next three years we will be working intensively on adapting our QMS to the latest version of the ISO standard 9001:2015.

PRODUCT SAFETY

SAFETY FIRST – THAT'S OUR GUARANTEE!



FINDINGS FROM OUR QUALITY CONTROL PROGRAMME

In crop year 2015, a total of 530 plant protection notices containing a limited selection of plant protection agents compared to the total number approved in Germany were sent to German hop growers. Seven of the growers received approval for a justified exemption. A total of nine growers without exemption approval violated the standard we had set, representing 1.7%.

In a total of eleven cases in which EU limits had been exceeded, with two exceptions, the hops or hop products concerned could be

LAWS AND STANDARDS

In the interests of consumer health and safety, the products and services supplied by Joh. Barth & Sohn are subject to a variety of laws and

HACCP

As part of our commitment to providing safe, top-quality hop products, Joh. Barth & Sohn has developed and introduced HACCP programmes at all its company locations. HACCP is an internationally recognised management system focused on the prevention of food-related safety problems.

Since 2006, the international HACCP guidelines have also been an integral part of our ISO 9001 QM system and therefore subject to regular audits and certification.

From 2006 on we provided our customers on request with a comprehensive HACCP annual report. Since 2013, as part of an improved, sustainable stakeholder dialogue strategy, Joh. Barth & Sohn has been sending all customers the newly-conceived and revised HACCP report.

Even if hops have always been at the forefront in quality matters amongst agricultural crops, particularly in terms of traceability and comprehensive control measures, there is still potential for improvement.

Although Joh. Barth & Sohn has subjected its hops to regular and intensive tests for pesticide residues for many years now, we have once again increased the extent of these checks considerably, and with that our quality requirements, using our **product safety concept**.

attributed to foreign countries with corresponding plant protection agent standards.

Of a total of 283 analyses of German raw hop lots, there were only two cases (0.7%) in which the EU limit was exceeded.

Of a total of 222 analyses conducted by our colleagues in the USA, there were no cases of applicable US residue limits being exceeded. Joh. Barth & Sohn's customers receive further information about the results of our analyses in our annual HACCP report.

regulations. A list of these and other information is available online.



QUALITY CERTIFICATES

EVIDENCE OF OUR DILIGENCE.





BARTH-HAAS QUALITY CONTROL GUARANTEE

Using our specially developed "BARTH-HAAS safety concept", with its integrated early warning system for seamless monitoring of the hops marketed by us, we offer our growers and customers maximum transparency for optimum "hop purity".

>>> BARTH-HAAS QUALITY CONTROL GUARANTEE

THE MOST COMPREHENSIVE QUALITY CONTROL PROGRAMME IN THE INDUSTRY



All hops and hop products obtained from BARTH are combined as composite samples in a standardised form and comprehensively analysed.



Only after the results of the analysis are made available, are hops released for processing and marketing.



Details of the schematic approach and the defined spectrum of active compounds can be found on the BARTH-HAAS website.

OUR "EARLY WARNING SYSTEM" RECOGNISES IN ADVANCE WHAT THE HOPS LACK



Thanks to the BARTH "leaf programme", the hops are tested for residues of plant protection agents prior to harvest.



Early forecasts are achieved through both close collaboration and exchange of information with the growers, as well as targeted advice from our skilled procurement experts.



Instances of pests and diseases are observed, documented and corresponding measures derived through the regular "BARTH-HAAS Hop Tour", which visits selected hop gardens throughout the European growing regions.

TRACEABILITY OF ALL HOPS AND PRODUCT LOTS



Our IT system allows comprehensive data storage and makes it possible for hops to be correctly allocated to meet customer needs.



This means that all growers lots in any given product batch can be easily traced.



Reference samples of all hop and product lots are retained for at least five years.



DOCUMENTATION AND SAFETY



The HACCP concept is an integral component of our ISO 9001 quality management system.



The plant protection sheet is a BARTH innovation and has become the established standard within the German hop industry.



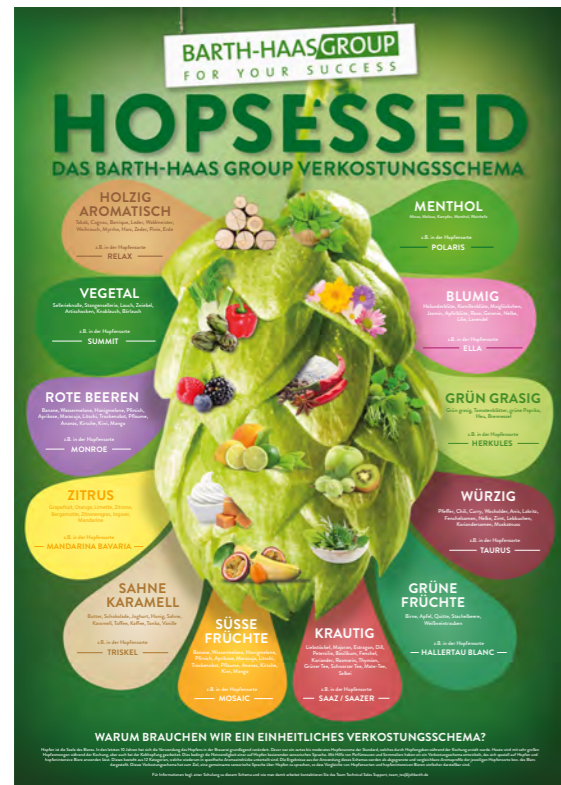
The plant protection calendar, as introduced by BARTH, has increased the reliability and comprehensiveness of documented plant protection measures, exclusively for our suppliers and customers.



EXCITING NEWS

STANDING STILL IS NOT AN OPTION FOR US.

We are constantly working to offer our customers **added value** in order to make them more successful. The skillful use of hops should help our customers stand out from the competition.



HOPSESSED – THE BARTH-HAAS GROUP'S TASTING SCHEME

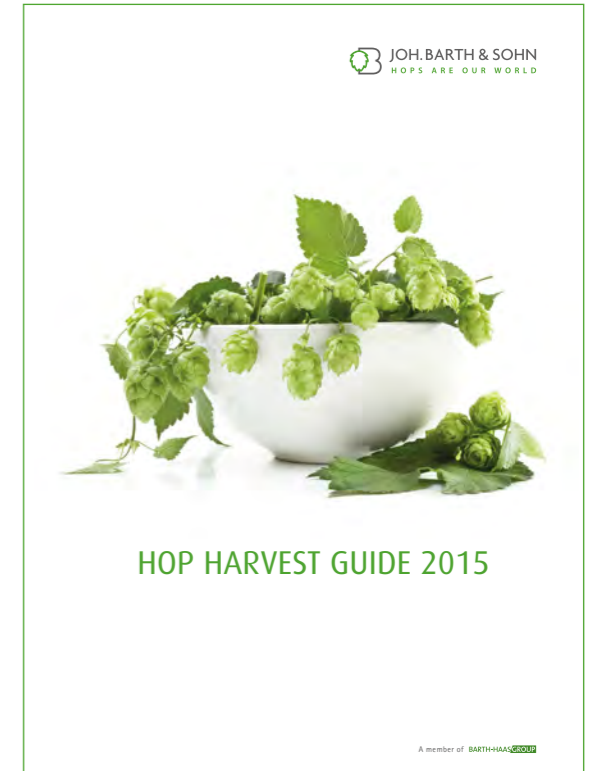
The aroma and flavour characteristics of hops and beer are becoming ever more important for brewers as a result of the strong development of the craft beer scene. Because our industry lacked a sensory language to judge the aroma characteristics objectively, however, we responded by creating the **BARTH-HAAS HOPSESSED** tasting scheme. This is a valuable tool to help our customers and stakeholders take difficult-to-measure factors and categorise them as objectively as possible.

The tasting scheme is also used in **HOPSESSED** – the latest HOPS ACADEMY module. The module was introduced in 2015 and includes intensive and interactive aroma training. Our teaching staff teach participants everything to do with aroma in general and hop aroma in particular. Scientific theory and practice through personal experimentation go hand in hand.

THE HOP HARVEST GUIDE

The annual Hop Harvest Guide is another tool that we have created for our customers. This is our next step into the never-ending world of hop aromas. Gone are the days when hops were judged solely according to their technical properties – today, aromas and flavours take centre stage. The three previous volumes of our Hop Aroma Compendium had already given customers a tool to help them make sound judgments in response to this trend.

As the hop is a natural product and therefore subject to seasonal conditions such as location, weather etc., each crop year has its own specific characteristics. After each harvest, our aroma experts assess the special crop year-specific aroma characteristics of the 32 most important hop varieties. We thus provide our customers with concentrated knowledge of the aroma characteristics of an entire crop year in a compact, practice-oriented form.



DR CHRISTINA SCHÖNBERGER NEW PRESIDENT OF ASBC

The American Society of Brewing Chemists (ASBC) has elected our colleague Dr Christina Schönberger as its new president. Founded in 1934, the ASBC today has over 1,000 members worldwide and is concerned primarily with the scientific aspects of beer. Being elected president of such an important institution is a sign of great recognition for our Technical Sales Support Manager, and shows our customers just how closely we engage with the needs and issues of our industry. Schönberger had already been on the Board of Directors of the ASBC since 2009 and was also International Director until 2013.



"The ASBC sets impressive standards in the brewing industry thanks to its scientific conferences, the ASBC Journal and its own collection of methods", says Schönberger.

>>> BARTH-HAAS GROUP UNIFORM TASTING SCHEME

DESCRIPTOR	FURTHER ATTRIBUTES	INTENSITY (0 – 10)
FLORAL	Elderflower, camomile blossom, lily of the valley, jasmine, apple blossom, rose, geranium, carnation, lilac, lavender	
CITRUS	Grapefruit, orange, lime, lemon, bergamot, lemon grass, ginger, tangerine	
SWEET FRUITS	Banana, watermelon, honeydew melon, peach, apricot, passion fruit, lychee, dried fruit, plum, pineapple, cherry, kiwi, mango	
GREEN FRUITS	Pear, quince, apple, gooseberry, white wine grapes	
RED BERRIES	Cassis, blueberries, raspberries, blackberries, strawberries, currants, wild strawberries, cranberries	
CREAM CARAMEL	Butter, chocolate, yoghurt, honey, cream, caramel, toffee, coffee, vanilla, tonka	
WOODY AROMATIC	Tobacco, cognac, barrique, leather, woodruff, incense, myrrh, resin, earthy, cedar, pine	
MENTHOL	Mint, lemon balm, camphor, menthol, wine yeast	
HERBAL	Lovage, Thuja, basil, parsley, tarragon, dill, fennel, thyme, rosemary, marjoram, green tea, black tea, mate tea, sage	
SPICY	Pepper, chilli, curry, juniper, aniseed, nutmeg, liquorice, clove, ginger bread, fennel seeds	
GRASSY-HAY	Green-grassy, fresh cut grass, hay, tomato leaves, green peppers, nettle	
VEGETAL	Celery Green, Celery Roots, leek, onion, artichoke, garlic, wild garlic	



AWARDS FOR ABREW CALYPSE NOW

We are delighted that our technicians' brewing expertise has received special recognition on three counts. Three beers from our in-house concept brewery ABrewCalypseNow have won prizes at Meiningers International Craft Beer Award:

- In 2015 a silver medal went to our amber lager "Relax, kick your shoes off" (hop varieties Monroe and Relax)
- In 2016 we won gold and silver with beers that had been brewed with our "Yellow Sub" hop composition (Yellow Sub Experimental Dry Hopped Belgium Trippel, Yellow Sub Amber Lager)

This represents a major tribute to the expertise of our technical department. In this way we have shown what fantastic aroma characteristics are to be found in our Yellow Sub hop composition and in our exclusive varieties Monroe and Relax.





05

EMPLOYEES



HR MANAGEMENT

PROGRESSIVELY TACKLING THE CHALLENGES OF THE FUTURE.



YOUNG TALENT AND SEASONED PROS

INDIVIDUAL STRENGTHS – SHARED SYNERGIES.



DEVELOPMENT AND APPRAISAL

RECOGNISING AND USING POTENTIAL.



SOCIAL FACTOR

THE RIGHT ENVIRONMENT FOR THE BEST PERFORMANCE.

HR MANAGEMENT

PROGRESSIVELY TACKLING THE CHALLENGES OF THE FUTURE.

We operate in many different countries – nine different nationalities work in twelve different languages for the success of Joh. Barth & Sohn. The cultural differences among suppliers, customers and our own employees place the highest demands on our HR management and our **leadership culture**. This internationality, cultural diversity and physical distance require the unifying elements worldwide of a sustainable vision and corporate values that we can live by. Our vision

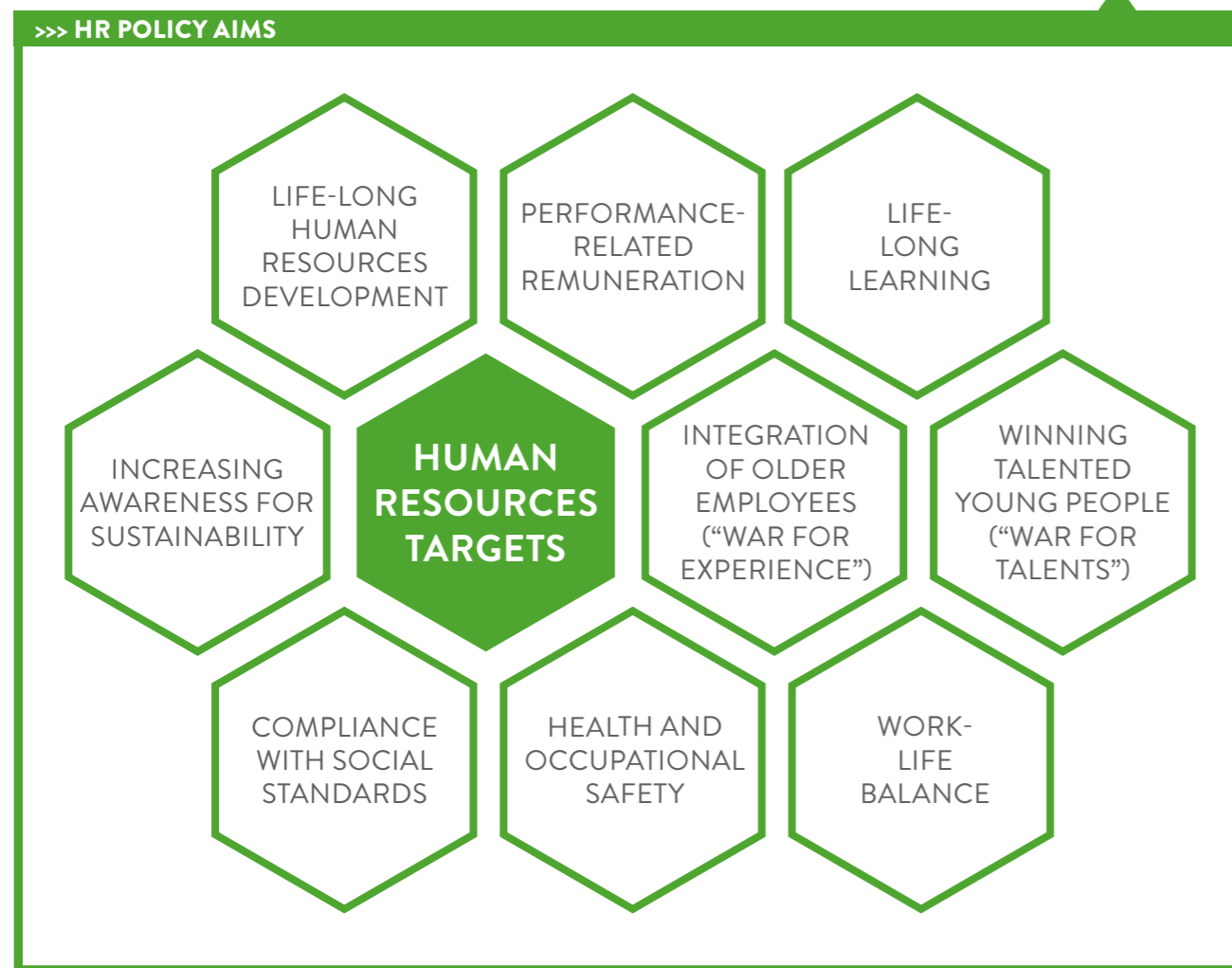
and our mission statement, which were redefined in 2016, and our values are intended to contribute to promoting a culture of sustainability at Joh. Barth & Sohn. This simultaneously fosters entrepreneurial spirit and personal responsibility; it rewards individual excellence and is based on the values of fairness and team spirit.



SKILLS, STRENGTH OF CHARACTER AND PASSION – THAT IS WHAT SETS OUR EMPLOYEES APART.



In order to meet the HR challenges of the future, we pursue the following HR policy aims:



YOUNG TALENT AND SEASONED PROS INDIVIDUAL STRENGTHS – SHARED SYNERGIES.

We want to be an attractive employer for employees. Our international business environment calls for individuals who are ready to act flexibly and with a high degree of personal initiative.

For that reason, Joh. Barth & Sohn invests in its young talent from an early stage. We have built up a **network with universities** and established **collaborations with professors**, while we also offer students the opportunity to put their ability to the test in connection with **seminar papers and theses**.

We hope that our student employees will not only be able to show their talent, but also give themselves the best possible start to their careers. For that reason we have expanded our range of internships to include a **trainee programme**. We hope this will allow us to get to know and encourage highly-qualified and motivated young people and establish a bond between them and our company early on.

We offer apprenticeships in **wholesale and international trade** and encourage the further professional development of our employees in **business administration and management**, for example. In 2015 we recruited our first **"dual student"**. Dual students learn a profession while at the same time studying for a university degree.

However, we do not only want to attract young talent; it is just as important to us that we retain the company's experienced employees, showing them respect and providing the support they need. Their accumulated knowledge and decision-making ability, their loyalty to their employer and ability to take on responsibility and their quality consciousness are valuable to us and are irreplaceable in the short term. In order to make the working day as comfortable as possible for older employees, we pay attention to issues such as health promotion and flexible working patterns.

DEVELOPMENT AND APPRAISAL RECOGNISING AND USING POTENTIAL.

CONTINUOUS VOCATIONAL TRAINING FOR EMPLOYEES

The systematic development and promotion of the various talents and skills of our employees is an essential prerequisite for the quality of our products and services – and thus for our success as a company. For this reason, we invest in knowledge, creativity and social skills. We provide our employees with a range of internal and external **further education courses** and **training programmes** for the purpose of targeted professional development and life-long learning.

On average, each of our employees spends approx. four days per year attending training courses or other further education events – whether focusing on industry topics or for their own personal development.

An example of our trend-focused further education from the period under review is the **intensive training course on the subject of sensory testing**, which several of our employees completed. 'Flavour' will be the next big trend in beer – with far-reaching consequences for the entire beer industry. However, flavours also have to be recognised and assessed. That's why we organised the **intensive training course on sensory testing**. The course, led by perfumer and flavour expert Frank Rittler, covered intensive nosing and tasting training, so that participants could better describe and classify hops and beer types. Other examples of our educational and vocational training programmes can be found online.

SYSTEMATIC POTENTIAL AND PERFORMANCE APPRAISAL

The continuous development of skills and personal abilities can only be successful if needs and success can also be appraised objectively. One of the most important tools within the management process for our managers and employees is therefore the systematic **IT-based appraisal of potential and performance**. This also forms the basis for performance-related remuneration.

Performance requirements and results are evaluated regularly for all employees using transparent, comprehensible criteria. These are based on job descriptions and requirement profiles. Not only technical and problem-solving skills, but also, equally importantly, leadership, social and responsibility skills are explicitly assessed. For this purpose we use an internationally recognised, systematic and consistent methodology, which all employees and managers must undergo.

PERFORMANCE-RELATED REMUNERATION

This potential and performance appraisal also includes a system for determining remuneration. We link salaries to individual performance criteria, meaning that payment is transparent, understandable and above all fair for both parties. We use regular employee meetings to check that performance and salary are commensurate, because we know that good performance requires strong motivation and needs to be rewarded.

We offer our **employees** safe working conditions, above-average pay and everything else that is important for a job with a globally operating, family-run company with a long tradition.

SALARY AND OTHER BENEFITS

- Market-oriented remuneration
- Company pension scheme
- Monetary-equivalent benefits
- Free drinks

WORK-LIFE BALANCE

- Monthly preschool fees
- Telecommuting (home office)
- Support during personal crises and private problems

SUPPORT FOR EMPLOYEES' SOCIAL ENGAGEMENT

- Donations to institutions that our employees use or support
- Time off for participation in associations, clubs and cultural institutions

SOCIAL FACTOR

THE RIGHT ENVIRONMENT FOR THE BEST PERFORMANCE.

WORK-LIFE BALANCE

As a family company, we know the value of family and hold it in the highest regard. That is why we are convinced that we can only be sustainable as a company if we support our employees in successfully mastering the challenges of combining professional and family life. We regard flexible working hours as an important means to achieve

this. We accommodate individual requests and facilitate flexitime, part-time work and telecommuting jobs as far as possible. We also offer telecommuting jobs to employees on parental leave so that contact is not lost and to make it easier for them to return to work after their parental leave is over.

HEALTHY EMPLOYEES

Not only do we want to support our employees in a professional capacity; we are also committed to their health, satisfaction and motivation. We see this as a duty of management, and we are therefore introducing a occupational health programme in our management process in Autumn/Winter 2016.

Our offer in terms of flexible organisation of working time ensures a healthy work-life balance to reduce work-related stress factors. The "Johannes Barth Memorial Association" was established to offer Barth employees support which extends beyond existing insurance systems in cases of exceptional pressures due to illness.

"CYCLE TO WORK" INITIATIVE

Each year since 2011, some of our employees have formed teams to participate in the "Cycle to work" initiative. Colleagues are able to club together to rack up kilometres over the summer months. If they have collected enough kilometres at the end of the initiative, the teams can enter a draw with attractive prizes. However, the most important benefits are daily exercise and fresh air.

INCREASING SUSTAINABILITY AWARENESS

We can only act sustainably as a company if our employees also do so as individuals. That is why we have been making great efforts for years to raise our employees' awareness of the principles of sustainability.

Our **Mission Statement** is the ideal basis for this. We have created a **Code of Conduct**, which successfully converts this into actual behaviour guidelines.

Training modules on the subject of sustainability are well-established components of our **training plans**. Our employees in Purchasing are also regularly trained in aspects of sustainability in hop growing.

The project "Ideas for Barth", described in Chapter 07 "Stakeholder Dialogue", acts as a central tool for us to involve all employees in sustainable development.

One of the aims described in the last report was the **review of workplace and room concepts according to ergonomic criteria**. This led to the creation of a concept for a complete revitalisation of our Nuremberg location with the support of an architect's office, considering ergonomic, climatic and energetic aspects.

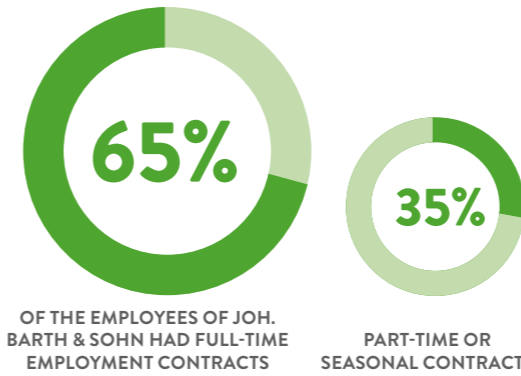
Our employees' **health** is a particular focus of this project. For this reason, all workplaces are being equipped with height-adjustable desks to avoid back problems. Additionally, social rooms are being renewed to provide better opportunities for relaxation during breaks.

Furthermore this concept should make it possible to **reduce our energy consumption significantly** and allow us to use renewable energy sources in the future. In doing so, we want to make an additional contribution to the responsible management of natural resources.

>>> SOCIAL PERFORMANCE INDICATORS

THE RESULTS OF OUR EFFORTS ARE REFLECTED IN THE FOLLOWING FIGURES:

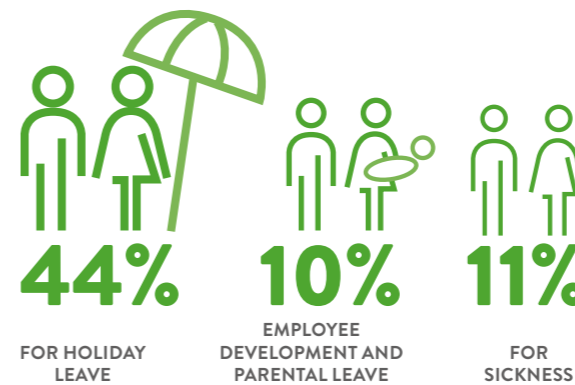
IN THE PERIOD UNDER REVIEW APPROX.



THE TURNOVER RATE OF OUR EMPLOYEES WAS



TOTAL EMPLOYEE ABSENCES CAN BE BROKEN DOWN INTO



WITH REGARD TO SALARIES, JOH. BARTH & SOHN



MAKES NO DISTINCTION ACCORDING TO GENDER.

PARENTAL LEAVE



WELL OVER HALF OF THE WORK-FORCE ARE WOMEN.



ALL OUR EMPLOYEES ARE SUBJECT TO REGULAR PERFORMANCE APPRAISALS.



IN KEEPING WITH OUR PERSONNEL MANAGEMENT PHILOSOPHY,



IN THE FUTURE WE WILL FURTHER INCREASE THE PROVISION OF EMPLOYEE DEVELOPMENT, PARTICULARLY VOCATIONAL AND PROFESSIONAL TRAINING, FROM CURRENTLY 22 HOURS PER EMPLOYEE PER YEAR.



06

SOCIAL RESPONSIBILITY

OUR CONTRIBUTION TO SOCIETY PROVIDES HELP IN THE RIGHT PLACES AND STRENGTHENS OUR OWN AWARENESS FOR WORKING AND LIVING CONDITIONS.



SOCIAL RESPONSIBILITY

WE KNOW OUR ROLE AND PLAY OUR PART.



MEMBERSHIPS AND COMMITTEE MEMBERSHIPS

ONLY THOSE WHO PLAY A PART CAN SHAPE THE FUTURE.



CULTURE, SOCIAL ENGAGEMENT, SPORT AND EDUCATION

WE PROMOTE WHAT IS GOOD FOR OUR STAKEHOLDERS.



EMPLOYEE COMMITMENT

WE'RE PROUD OF YOUR VOLUNTEERING.

SOCIAL RESPONSIBILITY

WE KNOW OUR ROLE AND PLAY OUR PART.

For Joh. Barth Et Sohn it has long been a matter of course to assume social responsibility and work together with our employees, customers and suppliers to support a variety of projects and institutions.

In 2012 we adopted a **donation policy** for Joh. Barth Et Sohn. The basis for this is our mission and the values we stand for as a company. The policy helps make decision-making processes more objective and strict, as it includes a system for approving and rejecting donations. We pay particular attention to whether a request for donations matches our corporate objectives and can be reconciled with our philosophy and values.

The form of our donations is always matched to the needs of the respective organisations and projects. Possibilities include:

- Financial donations
- Donations in kind, in the form of
 - Products
 - Equipment, supplies
 - Services
 - Know-how
- Voluntary work by our employees

MEMBERSHIPS AND COMMITTEE MEMBERSHIPS

ONLY THOSE WHO PLAY A PART CAN SHAPE THE FUTURE.

Joh. Barth & Sohn is a member of a number of associations and institutions and thus contributes in various locations and with a great deal of both personal and financial energy to the maintenance and development of the hop-growing and beer-brewing industries in their entirety. As member of associations and institutions in the hop and brewing industries, in education and science and in the banking industry we take part in different roles. Here are some examples, but please see our website for more.

- The German Hop Industry Association
- The International Hop Growers Convention (IHGC)
- Gesellschaft für Hopfenforschung (Hop Research Institute)
- SEDEX (Supplier Ethical Data Exchange)
- EcoVadis (Supplier Sustainability Ratings)
- ASBC (American Society of Brewing Chemists)
- MBAA (Master Brewers Association of the Americas)
- Brewers Association



CULTURE, SOCIAL ENGAGEMENT, SPORT AND EDUCATION

WE PROMOTE WHAT IS GOOD FOR OUR STAKEHOLDERS.

In our view, it is the duty of a regionally active company to support the preservation and cultivation of local customs and tradition. That is why we sponsor various events, such as the **Dellnhausen Folk Music Festival**, the **Hallertau Beer Festival** and, of course, the crowning of the **Hallertau and Tettngang Hop Queens**. (www.volksmusikfest.de, www.hallertauer-bierfestival.de)

As part of our commitment to promoting skills-based (vocational) education we support **Gabelsberger Secondary School** in Mainburg, where our central purchasing office is located, by organising project days for pupils. Furthermore, we are a partner for project seminars assisting sixth-form pupils with university course and career selection. (www.gabelsberger-gymnasium.de)

A matter truly close to our hearts is the support we provide for the **Thusnelda School** in our immediate neighbourhood in Nuremberg. This primary and junior secondary school accomplishes great things

in taking care of and educating its pupils, and is particularly focused on integration. (www.thusneldaschule.de)

Children at the **Noriszwerge** nursery school learn that it can be fun to play with the simplest of objects, such as buttons, in order to learn how to count. For some years now, Joh. Barth & Sohn has been purchasing equipment, including a new sandpit, sunshades, etc., and supporting the project with financial donations.

Joh. Barth & Sohn supports various projects organised by **Hämmerleinsmühle** each year. The theme this year is "**Think sustainable**". In this project, young people from all over the world are asked to develop their personal relationship with the often-overused term "sustainability" and learn what sustainable thinking means. (www.haemmerleinsmuehle.de)



Each year, Joh. Barth & Sohn donates to the **St. Jakob's Church open-door Christmas event**. This gives lonely needy people the opportunity to take part in a communal Christmas celebration. Furthermore, we donate gifts in order to give at least a little pleasure to socially disadvantaged people whose fates have often pushed them to the periphery of society. (www.jakobskirche-nuernberg.de)

Alongside the company, the **BARTH Foundation for Dyslexia and Dyscalculia**, established by one of our partners Stephan J. Barth, is also involved in educational matters. This foundation is autonomous and independent from the company. As a company we support the foundation with donations. In 2014/15, our sales team had the idea of donating 1 € to the foundation for every kilogramme of Finest Harvest Edition sold.

Joh. Barth & Sohn makes financial donations to **Bürger und Geschichtsverein Mögeldorf e.V.**, an association in our district whose activities include various themed evening events for parents. In the last year, for example, they organised an evening to provide help and tips on how parents can protect their children from the dangers of the Internet. Also in the last year they organised a trip in the school holidays where children and their carers were able to enjoy a fun-packed three days in the outdoors.

Every year there are collections at Joh. Barth & Sohn for the Bavarian Red Cross. School items such as pens, notepads and other items for daily use are donated for those in need.

In the last year we also supported the **Rummelsberg Diaconal Institution's "Schutzbengel"** ("Guardian Rascals") campaign. The aim of the campaign is to show that engaging with young people –

especially those "problem children" who have trouble finding their place in our society – is a matter of critical importance for the future. The campaign runs its own projects and is setting up a nationwide network of "guardian rascals".

The **Kressbronn-Toril Education Programme (KTEP)** has been helping people in need in the small town of Toril in the Philippines for nearly 25 years. The principal focus of the programme is on sustainable projects that help people in the long term to earn their own living. This programme was established by one of our employees, Dr. Reinhold Kugel, and his wife Aurora, and we are not only proud to have such committed employees, but are also glad to support them in voluntary work of this kind. (www.ktep.de)

Since 2015 we have also been supporting the charitable organisation **Lebenshilfe Nürnberg** in a special way. We source the number plates for our vehicle fleet from the **Lebenshilfe workshop for disabled people**. We are pleased to support this social project and have also encouraged our employees to take advantage of this offer personally.

>>> A SUSTAINABLE GIFT



EMPLOYEE COMMITMENT

WE'RE PROUD OF YOUR VOLUNTEERING.

Joh. Barth & Sohn's attitude to social issues and its willingness to actively engage is also reflected in the private voluntary work done by our employees. They define the character of the company: it is only with considerate employees that we can be a considerate company. That's why we support our employees' commitment in various ways. Employees who take part in voluntary work in their free time are

offered a choice of financial support, donations in kind or time off for this activity. The support provided ranges from financial assistance for youth teams, to material donations for relevant events, to paid time off for voluntary activities such as the voluntary fire brigade, local politics etc.

TAKING PART IN THE B2RUN CORPORATE RUN IN NUREMBERG





07

STAKEHOLDER DIALOGUE



OUR DIALOGUE
FINDING OUT WHAT IS EXPECTED AND COMMUNICATING WHAT WE DO.



INSTRUMENTS AND FEEDBACK SYSTEMS
THE RIGHT CHANNEL FOR EVERY BIT OF INFORMATION.



TECHNICAL AND SCIENTIFIC DIALOGUE
EXPERTISE AND SPECIALIST KNOWLEDGE FOR OUR STAKEHOLDERS AND US.

OUR DIALOGUE

FINDING OUT WHAT IS EXPECTED AND COMMUNICATING WHAT WE DO.

As a long-established market participant, we attach the utmost importance to contributing intensively to the fostering of our industry. We are therefore engaged in an ongoing and intensive dialogue with all of our stakeholders, i.e. with all of the people and groups who have a legitimate interest in our company's activities, especially with our employees, customers, suppliers, associations, non-governmental organisations and the scientific community. **Feedback** from our numerous communication media is introduced into our internal sustainability discussions in order to derive sustainability measures from it.

In particular, we support **technical and scientific dialogue** in the hop world in numerous ways. All of our stakeholders receive news on impactful topics for the industry in a wide variety of publications that appear on a regular or occasional basis.

“IDEAS FOR BARTH”
OUR EMPLOYEES MAKE US MORE SUSTAINABLE.

With the "Ideas for Barth" project, we have created another tool to identify new areas for action and, above all, to involve our employees directly in the implementation of our sustainability strategy. They

are encouraged to check all processes in terms of sustainability both within and beyond their operating environments and to submit their suggestions, comments and ideas for improvement.

The ideas are sorted into the corresponding areas for action by the sustainability team. Then they are evaluated and their feasibility is examined. The team decides whether a project can be initiated on the basis of a suggestion or whether it needs to be deferred or turned down.

In order to implement our strategy, we are focusing our action in the following areas which also reflect important development trends in our industry:

- Complaint-free and sustainable products and services
- Health and safety
- Reducing our environmental impact
- Increasing resources productivity (raw materials, energy, water)
- Enhancing our contributions to society



CONSTANT DIALOGUE AND THE WILLINGNESS TO CHANGE ARE OUR KEYS FOR THE BEST PERFORMANCE.

We have set up a platform for employees to submit their "Ideas for Barth". In this reporting period, a total of 117 suggestions were made, of which 21 were implemented in actual projects.

AREA OF ACTION	SUGGESTIONS	OF WHICH IMPLEMENTED	EXAMPLES OF PROJECTS
Complaint-free and sustainable products and services	4	2	• Development of the "Hop Growing Safety Kit"
Health and safety	28	5	• Reduction in the number of flights for Technical Sales Support
Reducing our environmental impact*	49	6	• "From the road to the rails": increased use of rail transport • Reduced paper consumption for process instructions
Increasing resources productivity (raw materials, energy, water)	13	7	• Warehouse to serve small customers and dispatch samples
Enhancing our contributions to society	23	1	• Introduction of the "Ideas for Barth" platform

*Both these important projects, described in detail in Chapter 03 – "Value Chain", are also the result of employee suggestions.

INSTRUMENTS AND FEEDBACK SYSTEMS

THE RIGHT CHANNEL FOR EVERY BIT OF INFORMATION.

BARTH REPORT

At a time when there were not yet any official hop and beer statistics, Joh. Barth & Sohn began to ascertain hop supply and demand in as objective a manner as possible and to make known the resulting data to those in professional circles who were interested by means of the Barth Report. The Barth Report was first published in 1877. It contains detailed information about the world beer and hop market. Over time, our world-spanning information network has expanded and the Barth Report has become more elaborate. The extensiveness and meticulousness of the data research preceding each edition remains unchanged to this day.

Between 2001 and 2012, an additional report was published entitled 'Beer Production Market Leaders Report', with statistical data on the 40 biggest beer producing countries in the world.

HOP SCIENCE NEWSLETTER

The Hop Science Newsletter is published monthly and provides information on the latest hop research. In it, Dr. Christina Schönberger, the head of our Technical Sales Support department, provides updates on current research activities, new findings or specific topics regarding hops or hop-related areas.

TECHNICAL PUBLICATIONS

BARTH-HAAS GROUP employees are constantly involved in hop-related research. They report on the results of this research work and of research conducted jointly with various research institutes and universities in publications in the fields of brewing, hop chemistry and hop processing.

BARTH-FAX

The Barth Fax gives all growers registered with Joh. Barth & Sohn a variety of information, such as:

- Reports about current international market situations and market analyses
- Recent publications on global developments in hop-growing acreage and production

- Significant events in the global hop industry, such as storm damage, growing conditions and Barth crop production estimates

The Barth Fax makes it possible for us to rapidly provide a very large number of hop growers in Germany with important and helpful information. The fax remains highly popular among hop growers.

BARTH PLANT DEVELOPMENT FAX

The Barth plant development fax is sent to all top suppliers and basic suppliers. For many years our Purchasing team has been carrying out regular visits during the vegetation period, in order to meticulously examine plant development and growing conditions. This vegetation observation allows our experts from Purchasing to make well-informed judgments and forecasts regarding weather conditions, growing conditions, plant development and disease and pest infestation. We are pleased to be able to share this knowledge in the Barth plant development fax.

ALPHA SCREENING

Determining the time to harvest a variety is an important decision in terms of yield and quality assurance both for the individual hop farm and for us. Measuring the alpha acid content is an important aid in this regard. Our alpha screening programme plots the development of alpha acid in the main varieties in a growing region through regular, systematic sampling and analysis during the ripening period. We can use the results to determine the optimum time window for harvesting in order to maximise raw hop quantities and alpha acid content.

A location's individual results are provided on a weekly basis to the owner of the hop garden where screening is conducted. The weekly evaluation along with the medium-term alpha acid development is published on the Barth growers' portal.

MARKET REPORTS

We report on the situation in the world hop market several times a year via the BARTH-HAAS GROUP. Joh. Barth & Sohn reports on the German hop market, John I. Haas on the US market, and Hop Products

Australia on the Australian hop market. We make these reports available to all on our website.

ONLINE TECHNICAL SUPPORT

We have also re-established our trusted online technical support tool on our new website. Using the quick contact tab, website users can quickly send questions to our Technical Sales Support team, regardless of where they are on the website.

THE HOP ATLAS

The Hop Atlas is a well-known standard reference work on the history and geography of the hop as a cultivated plant and brewing ingredient. This high-quality publication provides 389 pages of information on global hop growing, along with many illustrations.

The Hop Atlas is available in English and German. This extensive reference work is available free of charge for universities and professional schools (with a maximum of two copies per institution per year).

HACCP REPORT

From 2006 selected customers have received a comprehensive HACCP annual report on request. As part of an improved, sustainable stakeholder dialogue strategy, since 2012 Joh. Barth & Sohn has made the newly-conceived and revised HACCP report available to all customers. The report contains a selection of answers to the most frequently asked customer questions, as well as a comprehensive description of the Barth HACCP concept. The results of the residue analyses carried out as part of the BARTH-HAAS quality control guarantee are also clearly presented.

HUMULUS LUPULUS

"Humulus lupulus", a column about hops published every two months in the "Brau Industrie" magazine, was introduced in 2008. In this column we report on interesting new developments, historic stories and figures, data and facts about hops and brewing. This communication tool is characterised by its tongue-in-cheek reporting style, with which we impart knowledge without letting humour fall by the wayside. In 2014 we published the most interesting articles from this series in a separate brochure.

HOP FLAVOUR BLOG

Since 2015 we have provided our stakeholders with the Hop Flavour blog, in which interesting and serious information can be found alongside curious and amusing features related to hops and brewing. As part of our current website relaunch, we have also revamped the Hop Flavour blog and linked it directly to the website. The cool and attractive presentation, along with the relaxed register of the blog, allows us to engage above all with young brewers, students, beer lovers, sommeliers and other members of the craft beer scene. www.hopflavourblog.com

WEBSITE

The website is usually the first means by which interested parties can find further information about a company. That is why it is all the more important to us to design our own website so that visitors can find the information they want quickly and instinctively. That is why we completely revamped our website in terms of content and function in 2016. Brewers can now find everything to do with varieties and products even more quickly and easily; our growers, too, can find all the information relevant to them in a dedicated area. A significant new feature is the page on sustainability. There we provide our users with all content found in the print version of the Sustainability Report, along with comprehensive additional articles and graphics that we deliberately omitted from the print version. www.barthhaasgroup.com

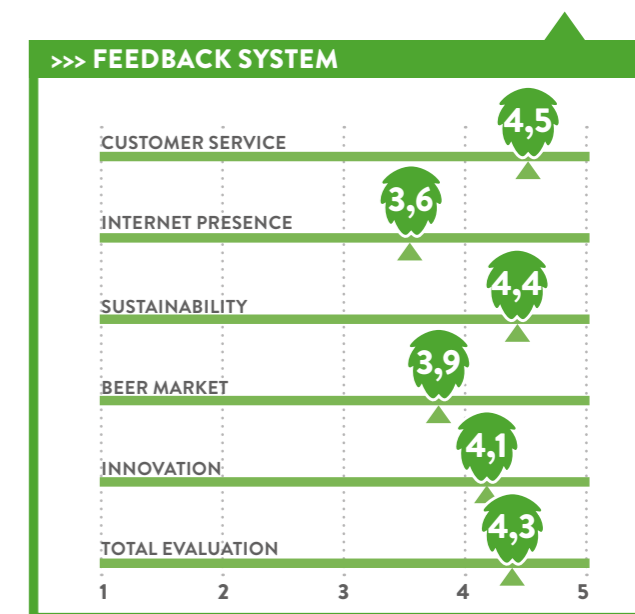
CERVISIA – BEER EXPERIENCE SHOP

With our involvement in the Cervisia beer experience shop belonging to Höss Brau- und Vertriebs GmbH & Co. KG, we have for the first time created a communication tool to address the end consumer. We contributed to the presentation in the shop and showroom of the raw materials that go into beer, introducing the raw material hops with an impressive installation, as well as with visual aids and information material. We also offer hop academies and workshops on site. We are convinced that it is sustainable for us to maintain some contact with the end consumer, even though we operate in the B2B sector. Only if we know how our raw materials are received by consumers and what they know about and expect of them, can we provide our customers with the right ideas and assistance and at the same time support them with this image work.

CUSTOMER SATISFACTION SURVEY

We regularly carry out an Internet-based customer satisfaction survey (every two years). The main purpose of this is to gather ideas for potential areas for improvement and to use this to further optimise our customer service. The last customer survey was carried out in 2014 in three languages (German, English and Russian). In addressing our customers, we ensured that, alongside those responsible for purchasing, our direct contacts in the technical and administrative departments in the respective brewery plants were also asked about their experiences with Barth. Of the 438 online questionnaires sent, 135 were completed and returned. The response rate thus increased once again from 23.9% to 30.8% compared with the last survey in 2012.

A total of 25 questions, which could be rated on a scale of 1 (poor) to 5 (excellent), were asked regarding the following subject areas:



The customer survey once again showed very high levels of satisfaction among our customers with both the products and the service. In particular, the service in our logistics department, our technical advisory service and our performance in terms of sustainability were rated very positively. On average, we scored between 3.7 and 4.6.

For the 2016 survey, along with the usual questions about customer satisfaction, we will also focus more closely on the criteria used by our customers in the respective customer categories when making purchase decisions and scrutinise the prioritisation we have assumed. We hope thus to gain a deeper insight into the motives of the respective customer segments in order to produce a package of offerings and measures specific to each customer segment.

TECHNICAL AND SCIENTIFIC DIALOGUE

EXPERTISE AND SPECIALIST KNOWLEDGE FOR OUR STAKEHOLDERS AND US.



In order to promote technical and scientific dialogue between the hop industry and universities and institutes, we support various projects

related to hops and brewing, both financially and with products and services.

BARTH-HAAS GRANT

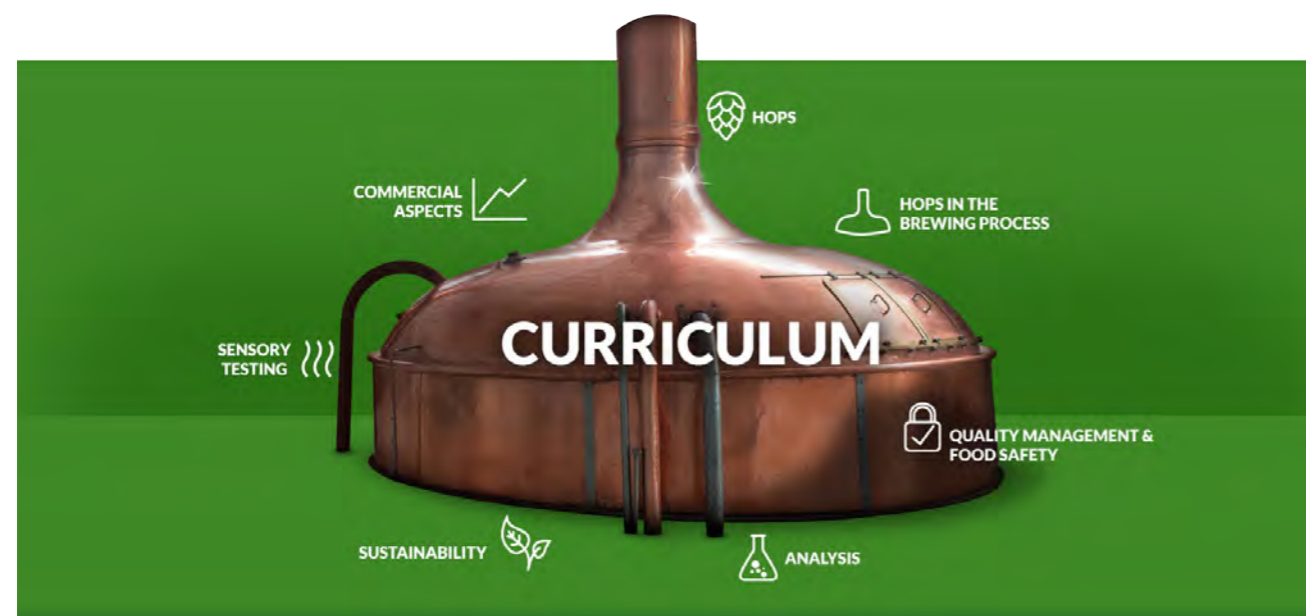
HOPS ARE OUR WORLD

BARTH-HAAS GRANTS

For us, supporting research means shaping the future. That is why the BARTH-HAAS GROUP awards grants to young students who are engaged in innovative hop research. Significant progress has been made in hop research in recent years, but by far not all the potential uses of hops have been discovered. With these student grants, the BARTH-HAAS GROUP therefore aims to encourage new approaches in research dealing with hops and their application potential.

Since 2007, 56 grants have been awarded to 22 different institutes and research establishments for outstanding hop research projects. The projects that have been supported up to now have dealt with topics such as hop-based anti-foaming agents, dry-hopping technologies, hop aroma yield during the brewing process, hops and gushing, the constituents of hops that affect flavour and the role of hops in flavour stability. Other questions that have been examined are whether the HSI is variety-specific and what influence hop proteins have. Some of the grants have spawned projects that have received or will receive public funding (through the AiF or the FEI Research Association of the German Food Industry) of up to 300,000 €.

The grants amount to 2,000 € each for up to six scientific studies. The decision is made by a jury consisting of the shareholders of the BARTH-HAAS GROUP and the members of the scientific advisory board.



BARTH-HAAS HOPS ACADEMY

All there is to know about hops!

BARTH-HAAS HOPS ACADEMY

The extremely great influence of hops on the quality of beer is often underestimated. The BARTH-HAAS HOPS ACADEMY was founded in 2010 with the aim of achieving a better understanding of the complexity of the hop and its full potential. The individual modules of the training courses address all aspects of hops and hop usage. Alongside seminars lasting one to three days, which anyone interested may attend, the

Hops Academy offers in-house seminars focusing on specific topics. Having in-depth knowledge of the usage, effects and impact of this special brewing ingredient enables the brewer to optimise process efficiency and to develop distinctive, high-quality beers. Since February 2011, 71 events attended by more than 2,000 participants in total have been held in 25 different countries worldwide. The

latest development from the Hops Academy is the HOPSESSED module focusing on aroma training which is described in "Products and customers", Chapter 04 of this report.

ACCREDITATION OF THE HOPS ACADEMY

The BARTH-HAAS HOPS ACADEMY officially became a member of the "Institute of Masters of Beer (IMB)" in 2013. The IMB has developed a professional training programme in which the HOPS ACADEMY is a recognised training centre. The programme leads to the award of "Certified Member of the Institute of Masters of Beer". The training programme – lasting a minimum of two years – builds upon the beer

sommelier training that has been run with great success by the Doemens professional academy for many years.

The accreditation of our Hops Academy as an official training centre is a commendation of the Hops Academy's previous courses and teaching content.



BARTH HOPFEN-AKADEMIE

All there is to know about hops!

BARTH HOPS ACADEMY

What is the claim of the BARTH Hops Academy? Everything you need to know about hops! The demands placed on the hop grower today are continually increasing and are also becoming more and more extensive. In order to be successful it is no longer enough simply to understand the growing requirements of this demanding speciality crop. It is now also indispensable to have the latest knowledge, for example, with regard to aspects of business management, the legal framework, trends in the brewing industry and requirements for sustainable farming.

identify key subject areas relating to hops, and design BARTH Hops Academy training courses according to the interests of growers.

Important topics that are in demand again and again include the latest hop market insights and the latest trends in hop varieties and breeding from the economics module, as well as a wide range of topics from the hop production module. The sustainability module is also an established part of the Barth Hops Academy. This module explores the three important pillars of sustainable hop production: economics, ecology and social aspects.

In winter 2014/2015 the BARTH Hops Academy offered courses for the third time, and between November 2014 and March 2015 a total of six different courses were held.

Our foundation courses in beer brewing are markedly popular and normally sold out. Because of the craft beer trend, producers of hops – the key raw material – are also interested to learn about the production of the end product. The in-house lecturers from our Technical Sales Support team introduce growers to the world of beer brewing.

CURRICULUM

The practically oriented training courses at the BARTH Hops Academy are structured as modules which are in turn made up of individual units covering many aspects regarding hops in various subject areas. Through ongoing surveys of course participants, we are able to

For groups, the topics of the training courses can be tailored to the specific needs of the group, and it is possible for institutes, schools and universities to integrate selected topics in their own curricula.



08

ABOUT THIS REPORT



REPORTING FRAMEWORK



GRI CONTENT INDEX



REPORT BOUNDARIES



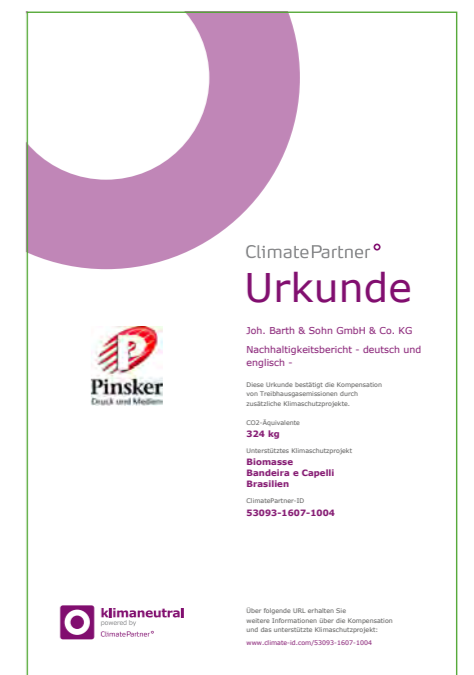
IMPRINT

REPORTING FRAMEWORK

This is the third Sustainability Report from Joh. Barth & Sohn GmbH & Co. KG and concerns the fiscal year from 1 August 2015 to 31 July 2016.

The Sustainability Report was produced in accordance with the "Core" option of the Global Reporting Initiative Version 4.0. The report is published as a stand-alone publication. The main content can, however, be found in the "Sustainability" section of our website.

www.barthhaasgroup.com/en/sustainability



GRI CONTENT INDEX

The following tables show where information corresponding to reporting elements and indicators in the Global Reporting Initiative (Version 4.0) can be found in our Sustainability Report. They contain the indicators taken from the GRI guidelines which Joh. Barth & Sohn consider relevant.

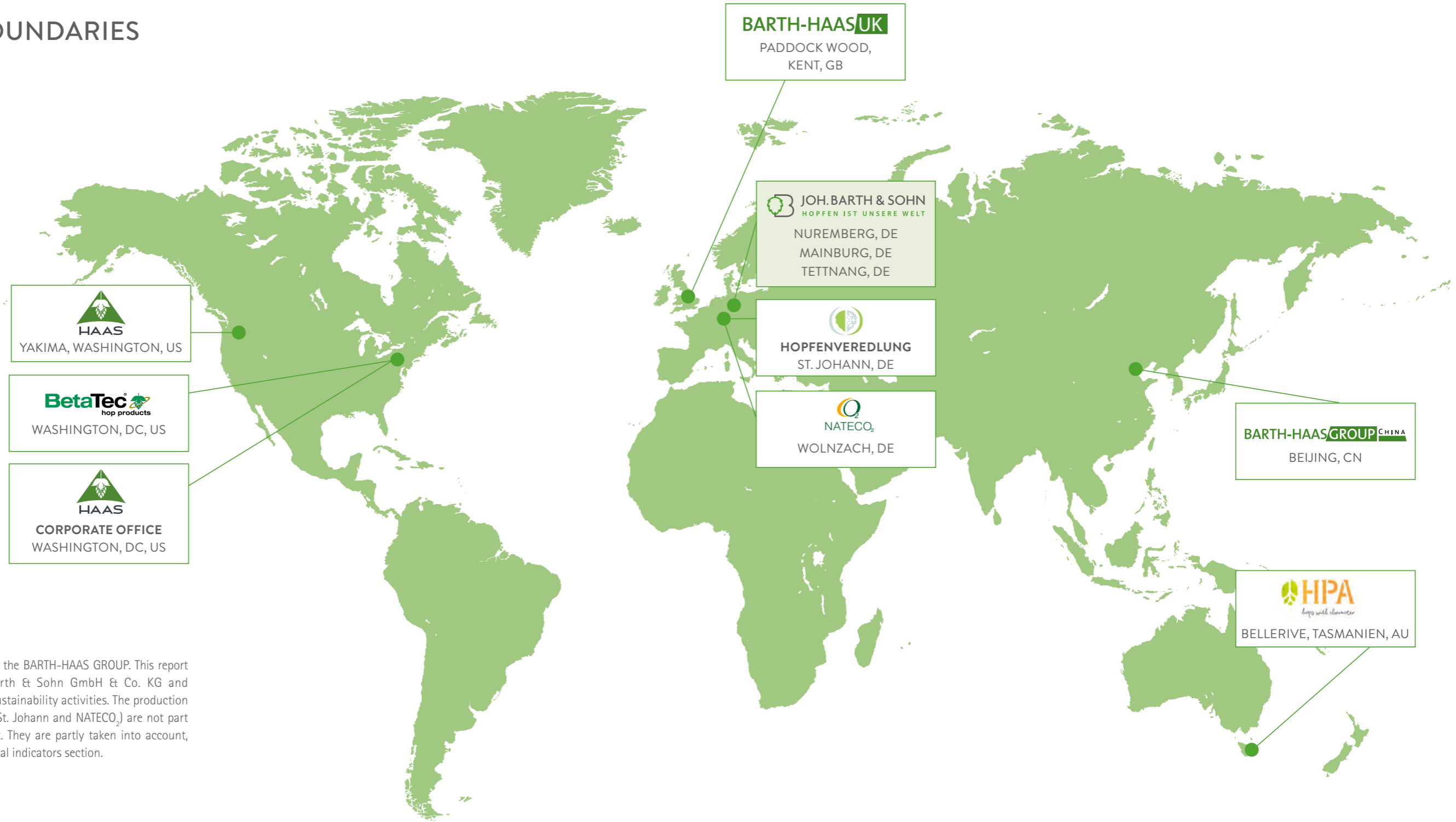
GRI Indicator		Page
GENERAL STANDARD INFORMATION		
Strategy and Analysis		
G4-1	Statement from the most senior decision-maker of the organization	3
G4-2	Description of key impacts, risks, and opportunities	3
Organizational Profile		
G4-3	Name of the organization	Title, 54
G4-4	Primary brands, products, and services	5 ff.
G4-5	Location of the organization's headquarters	54
G4-6	Number of countries where the organization operates	54 f.
G4-7	Nature of ownership and legal form	54
G4-8	Markets served	5
G4-9	Scale of the organization	96 employees at 3 locations
G4-10	Total number of employees	39, 52
G4-11	Percentage of total employees covered by collective bargaining agreements	none
G4-12	The organization's supply chain	18 ff.
G4-13	Significant changes during the reporting period	3
G4-14	Precautionary approach or principle	16, 19, 24, 27 ff.
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	SAI, Sedex, EcoVadis
G4-16	Memberships of associations	Selection on page 42 and full list online
Identified Material Aspects and Boundaries		
G4-17	Entities included in the organization's consolidated financial statements or equivalent documents	54 f.
G4-18	Process for defining the report content and the Aspect Boundaries	14
G4-19	Material Aspects	14
G4-20	Aspect Boundary within the organization	14
G4-21	Aspect Boundary outside the organization	14
G4-22	Restatements of information provided in previous reports, and the reasons for such restatements	Changes to text and graphics for better readability
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	Change from GRI G3.1 to G4
Stakeholder Engagement		
G4-24	List of stakeholder groups engaged by the organization	14, 19, 45 f.
G4-25	Basis for identification and selection of stakeholders with whom to engage	14, 45
G4-26	The organization's approach to stakeholder engagement	15 f., 45 ff.
G4-27	Key topics and concerns that have been raised through stakeholder engagement	46 and online

Report Profile		
G4-28	Reporting period	51
G4-29	Date of most recent previous report	August 2013
G4-30	Reporting cycle	As required
G4-31	Contact point for questions regarding the report or its contents	54
G4-32	'In accordance' option and GRI Content Index	51, 52 f.
G4-33	External assurance for the report	none
Governance		
G4-34	Governance structure of the organization	3, 15 ff.
Ethics and Integrity		
G4-56	The organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	10
SPECIFIC STANDARD DISCLOSURES		
Disclosures on Management Approach		
G4-DMA	Management Approach	14 ff.
Economic Disclosures		
Economic Performance		
G4-EC1	Direct economic value generated and distributed	11
Market Presence		
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	all
Procurement Practices		
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	11
Environmental Disclosures		
Energy		
G4-EN3	Energy consumption within the organization	24 f.
G4-EN4	Energy consumption outside of the organization	24 f.
G4-EN5	Energy intensity	24 f.
G4-EN6	Reduction of energy consumption	24 f. and online
G4-EN7	Reductions in energy requirements of products and services	24 f. and online
Water		
G4-EN8	Total water with drawal by source	25
G4-EN10	Percentage and total volume of water recycled and reused	25
Emissions		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	25
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	25
G4-EN19	Reduction of greenhouse gas (GHG) emissions	25
G4-EN21	NOx, SOx and other significant air emissions	25
Effluents and Waste		
G4-EN22	Total water discharge by quality and destination	25
G4-EN23	Total weight of waste by type and disposal method	25

Products and Services		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	25, 46 and online
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	none
Compliance		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	none
Transport		
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	25, 46
Supplier Environmental Assessment		
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	24, 29
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	24
Environmental Grievance Mechanisms		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	none
Social Disclosures		
Employment		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	39, 52
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	No distinction between full-time and part-time employees
G4-LA3	Return to work and retention rates after parental leave, by gender	39
Occupational Health and Safety		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	39
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	none
Training and Education		
G4-LA9	Average hours of training per year per employee by gender, and by employee category	39
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	36 ff.
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	37
Diversity and Equal Opportunity		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	39
Equal Remuneration for Women and Men		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	39

Supplier Assessment for Labor Practices		
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	24
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	24
Labor Practices Grievance Mechanisms		
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	none
Non-Discrimination		
G4-HR3	Total number of incidents of discrimination and corrective actions taken	none
Local Communities		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	41 ff.
Anti-Corruption		
G4-SO4	Communication and training on anti-corruption policies and procedures	10
G4-SO5	Confirmed incidents of corruption and actions taken	none
Public Policy		
G4-SO6	Total value of political contributions by country and recipient/beneficiary	none
Anti-Competitive Behavior		
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	none
Compliance		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	none
Customer Health and Safety		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	29 ff.
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	none
Product and Service Labeling		
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	28 ff. and online
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	none
G4-PR5	Results of surveys measuring customer satisfaction	47
Marketing Communications		
G4-PR6	Sale of banned or disputed products	none
Customer Privacy		
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	none
Compliance		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	none

REPORT BOUNDARIES



Joh. Barth & Sohn is part of the BARTH-HAAS GROUP. This report was produced by Joh. Barth & Sohn GmbH & Co. KG and principally describes their sustainability activities. The production facilities (Hopfenveredlung St. Johann and NATECO₂) are not part of this Sustainability Report. They are partly taken into account, however, in the environmental indicators section.

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NOTE ON GENDER

In the interests of readability, this report was written using agent nouns in either their male or female forms. On no account does the use of one gender imply the discrimination of the other gender. Both women and men should consider themselves addressed equally by the content of our Sustainability Report.

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