SINCE 1040

BAYERISCHE STAATSBRAUEREI

Weihenstephan

THE WORLD'S OLDEST BREWERY

Bayerische Staatsbrauerei Weihenstephan

Sustainability Report

and Environmental Statement in accordance with EMAS

2024

In accordance with EMAS III - Regulation (EC) No 1221/2009 and Commission Regulation (EU) 2017/1505

Foreword

Dear Reader,

Since 2021, we have been publishing an annual Environmental Statement – which includes aims that guide our work and, of course, that we use to measure our progress. This statement is a fundamental part of our environmental management system in accordance with EMAS (Eco Management und Audit Scheme). But we also have news for you: because this time you will be reading a sustainability report with an environmental statement. Here, you will discover our social commitment among other things highlighted even more clearly. You will also find detailed information about our employee benefits and what characterizes us as the Weihenstephan family.

In short: We would like to show you that we are active – not only in our operational processes, but also in terms of the health and wellbeing of our Weihenstephan originals!

Because we see it as our responsibility not only to actively promote environmental protection, but also to continue improving our key figures. But take a look and decide for yourself. We also want our employees to identify with Weihenstephan because only those who stand behind the product and company are able to deliver top performance. Our record results are proof that everything here simply fits!

If we look at the bare facts, it is clear to see that we are constantly working on our environmental KPIs and getting better in many areas. An analysis, however, reveals where we have room for improvement. And you can believe me for sure: We will tackle these issues with the necessary care and wholeheartedness. This report ruthlessly highlights where some fine-tuning is still needed. For us, it is also crucial that there is the highest level of transparency for you, dear friends of Weihenstephan. I invite you to take a look behind the sustainability endeavors of the brewery and form your own opinion on our efforts. Then you will recognize that we take our responsibility for the environment and our employees seriously.

Bayerische Staatsbrauerei Weihenstephan

Prof. Dr. Josef Schrädler
Director

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1. Company profile and site description

1.1 Company profile

Bayerische Staatsbrauerei Weihenstephan, founded as a monastery brewery by the Benedictine monks in the year 1040, is today a state-owned company that is run according to private sector standards. A look behind the historic brewery walls reveals modern technology that draws on state-of-the art scientific findings in beverage technology. Traditional brewing methods together with almost 1000 years of experience result in premium beers of the highest quality that are honored with the most sought-after awards in international beer competitions year after year.

Meanwhile the company has more than 180 employees at two sites – in the brewery itself and in the logistics center.

It is essential for our environmental statement to separate the brewery and logistics sites from each other in order to ensure an honest representation. The separate views mean that energy and electricity consumption can be calculated more accurately and for each site individually. This should not give the impression, however, that the logistics center is an independent company; it is simply a part of the brewery that is located at a different site.

The product portfolio of the Bayerische Staatsbrauerei Weihenstephan comprises 14 year-round beer specialties and two seasonal beers. The brewery is particularly well known for its Hefeweißbier, available worldwide in more than 60 countries.

1.2 The brewery

Address	Alte Akademie 2, 85354 Freising
Land area	52,963 m², near-natural area thereof 1,200 m²
Headcount	**146**
Environmentally relevant systems	- Mash house (emissions: noise and particulate matter) - Boiler systems - Refrigeration systems (ammonia) - Hazardous materials storage/AwSV fuel station - In-company logistics (fork-lift trucks)
Site activities	**Production of beer** (according to NACE Code 11.05)

The Bayerische Staatsbrauerei Weihenstephan stands on the Weihenstephan hill in Freising, in the middle of the Technical University of Munich campus. As a state-owned company, it belongs to the Free State of Bavaria and is under the responsibility of the Ministry of Science and Art.

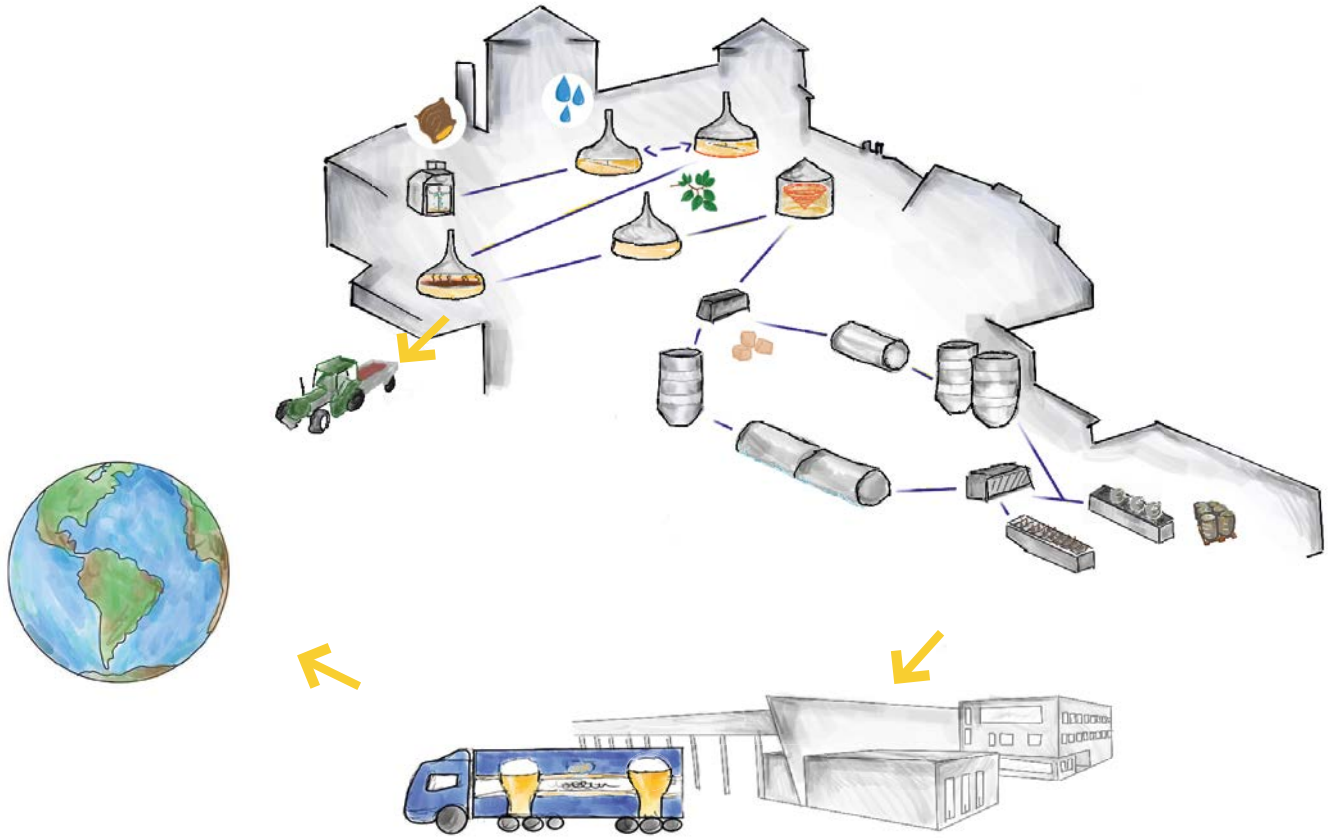
The brewery is split into several levels: administration and mash house are located at the highest point, the fermenting and maturation cellars a little way down the hill. The packaging system stands a little further down, next to the kegging and bottling cellar. Important operating equipment here is, for example, the gas-fired steam boiler for heating the mash house as well as the ammonia refrigeration system with an evaporative cooler.

The brewery is a facility requiring approval in the sense of the Federal Emission Control Act. An increase in production capacity is approved for up to 2520 hl/day on a quarterly average and falls according to fourth Federal Emission Control Act (4. BImSchV) Annex 1 under 7.27.2.

1.3 The logistics center Weihenstephan

Address	Clemensänger-Ring 17, 85356 Freising
Land area	23,489 m², near-natural area thereof 11,974 m²
Headcount	**38**
Environmentally relevant systems	- Oil separators - Heat pumps - In-company logistics (fork-lift trucks)
Site activities	**Storage, picking and loading of products** **Supplying the brewery with materials**
Warehousing and storage	(according to NACE Code 52.10)

After years of planning, the time had finally come in May 2019: the logistics center of the Bayerische Staatsbrauerei Weihenstephan was opened in the industrial park Clemensänger in Freising-Lerchenfeld. Behind this decision was the need to alleviate the situation at the site on the Weihenstephan hill, where beer crates were piled up to the roof. To meet the increasing demand for Weihenstephan beer specialties, a state-of-the-art storage facility for beer and a high-bay warehouse for equipment were built. Because the majority of sales are made ex works, the site directly at the A92 highway was a perfect choice.



A schematic of the beer brewing process

To supply the logistics center with freshly filled goods, a sophisticated shuttle system using two trucks was introduced. On a daily basis, full crates and kegs are exchanged with empties and other materials required, such as new glass or bottle caps. Customers have easy access and can conveniently pick up the beer without touching urban traffic. The traffic situation on the Weihenstephan hill has greatly improved as a consequence.

The entire energy supply in the logistics center, including the heat pumps, is provided by 100% green electricity. Additionally, photovoltaic systems are installed and the energy-efficient floor temperature control system guarantees an optimal storage temperature the whole year round to ensure a high beer quality.

All these measures have led to the logistics center becoming the most modern and optimized building owned by the Weihenstephan brewery.

The newly available free space at the brewery was put to a new purpose. By installing a packaging facility, the brewery now has all processes – from brewing to selling ex warehouse – in its own hands and no longer has to depend on service providers. Accordingly, the brewery can better assess and optimize its own environmental performance.

In addition, a new dealcoholization system, filtration system, and a combined cellar (fermentation, pressure and storage tanks) were installed. This new equipment not only saves energy, but also provides more flexibility in the operational process.

2. Environmental policy

As the oldest brewery in the world, the Bayerische Staatsbrauerei Weihenstephan can look back with pride on almost 1000 years of brewing tradition. This awareness for tradition on the one hand and the continual striving for modernization and renewal on the other, form the cornerstones of our success. We have defined the principles of action for the sustainable development of our company in our environmental policy and we communicate our environmental policy not only to our employees, but also to customers, suppliers and service providers.

Our environmental policy is:

1. Sustainability
We see sustainable management as a key factor for responsible and future-oriented action and implement this in all areas of the company.

2. CO_2 neutral production
Our aim is to continue saving and avoiding CO_2 in the whole production process. We offset unavoidable emissions by means of compensation projects and are already CO_2 neutral for Scope 1 and Scope 2. We also strive to make our processes as resource-friendly as possible while ensuring a high material efficiency.

3. Promoting the region and protecting the environment
As a medium-sized brewery with regional roots, we also consider it our duty not only to work in an environmentally-friendly way, but also to promote the region. By supporting regional climate and social projects, we wish to make our contribution to sustainability.

4. Commitment to improving our environmental performance
Working on continuous improvements is not only anchored in our quality management; we also want to do this for our environmental impact. We commit therefore to continually optimizing our environmental performance.

5. Legal regulations
Complying with applicable legal stipulations in the areas of environmental and occupational safety is a minimum requirement for us. Avoiding environmental pollution goes without saying.

6. Employee training
By providing training for our employees, we not only ensure occupational safety, but also promote ecological awareness.

7. Preserving nature
The most important goal for us is to preserve nature and thus ensure the future supply of high-quality raw materials. To this end, we make available the required financial means for environmentally-friendly action.

3. Activities for environmental and climate protection

Environmental protection is not a new topic in the Weihenstephan brewery. Over the past 30 years already, the brewery repeatedly strove to act in a more environmentally friendly way. The time referred to was from 1989 to 2019 – the time therefore before the environment management system was introduced.

It is especially important to mention here that our raw materials have always been sourced locally. Our water comes from the Isar wetlands and is treated by the Freising municipal utilities and then by us. Our hops come exclusively from the Hallertau, the largest contiguous hop-growing region in the world, and the malt is produced from Bavarian barley and Bavarian wheat.

The brewers grains, malt dust and surplus yeast produced during the brewing process is supplied to regional farmers for further use. As in the case of raw materials, partnerships have developed, sometimes over decades, so that our by-products can be used as animal feed and does not have to be disposed of. We have had these by-products certified especially for use as feedstuff in order to be able to provide farmers with a safe and high-quality product.

Putting foils on our bottles was abolished and in 2014 we even purchased a new bottling system with improved energy efficiency and lower water consumption. The brewery´s lighting system has also been replaced over the years. We have not only installed motion sensors, but have also fitted LED lamps in all new areas. A further major project of the brewery was to install an ethanol collection tank, which collects alcohol arising from producing non-alcoholic beers. Wastewater pollution caused by the ethanol is thus prevented and can even be collected by companies for further use as high-quality food alcohol.

In terms of processes, Weihenstephan has also introduced a new ordering system that optimizes delivery routes and order quantities. In addition to this, a more efficient and optimized route planning for catering deliveries guarantees the saving of resources.

Changes have also been made regarding water consumption: a new program in the process control system now ensures accurate data capture of water consumption.

It is also planned to further expand e-mobility. Both the vehicle fleet and the shuttles that run between the brewery and the logistics center should also be powered with electricity. Its feasibility is currently being assessed.

Additionally, the logistics center roof is equipped with photovoltaic systems that have been in operation since August 2023. The modules generate an output of 400 kWp on an area of 2000 m2 that was already prepared for such systems during the construction phase a few years ago.

4. Environmental Management System

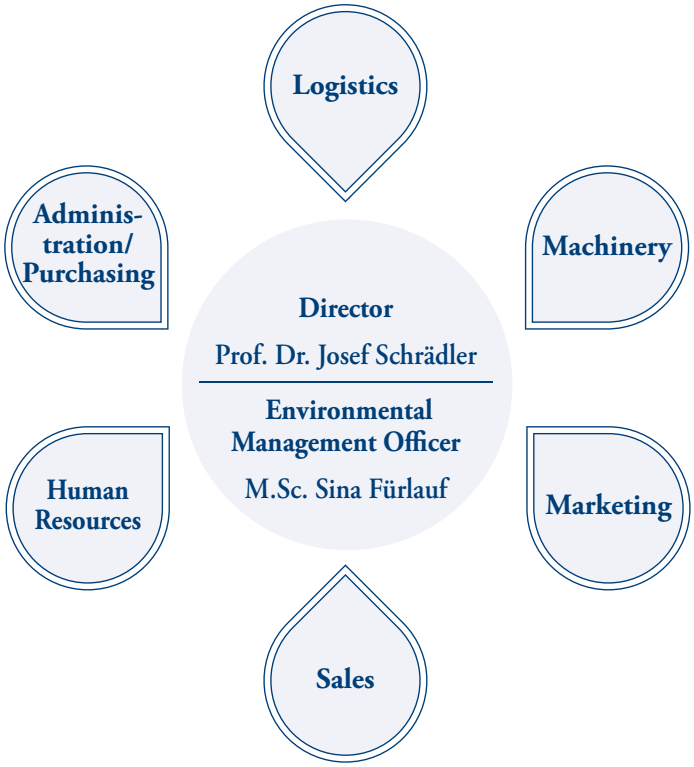
To take one step further and be able to better measure our environmental performance and communicate it to the outside world, we decided to introduce the environmental management system EMAS. This was set up according to the guidelines of the currently valid EMAS Regulation 1221/2009 (EMAS III).

By means of this eco-management system (EMS), we are able to systematically define and review our environmental aims and can thus manage our environmental policy in a more environmentally-friendly way long term. The environmental management system encompasses all brewery operations.

All department managers heads communicate regularly to develop joint measures that serve to achieve our environmental aims. These measures are documented in the environmental program with deadlines and responsibilities.

The environmental management manual serves to document processes and responsibilities. An environmental management officer has been appointed in the company as the person mainly responsible for environmental protection.

The success of a management system, however, depends on involving all employees. Responsible actions are ensured by means of regular training and instruction. This guarantees optimal implementation in daily work. Employees can actively participate in operational environmental protection thanks to a suggestion system for improvements.



5. Compliance with legal regulations

External requirements for our brewery and our environmental management system are defined in particular by the legal stipulations applicable to us as well as by standards based on EMAS. Regarding legal requirements, we have identified which laws and regulations as well as specifications and notices are relevant for us and how they affect us. These were documented in a legal register and are continuously reviewed. We obtain the required information via the IHK (chamber of commerce) newsletter as well as through close contact to the relevant offices, enabling us to assess the changes applicable to us. In addition, we also check legal stipulations in the course of our annual legal check within the internal audit. In this way, we can ensure that new requirements affecting us are implemented through suitable measures.

Among the relevant laws and regulations, the Federal Emission Control Act, the Federal Water Act, the Ordinance on Facilities for Handling of Substances that are Hazardous to Water and the Ordinance on Hazardous Substances are of particular importance for our brewery. We comply with all applicable environmental stipulations.

6. Environmental aspects

Environmental aspects are those aspects of the brewery that, as a producing business enterprise, have positive or negative effects on the environment. Fundamentally, we differentiate between direct and indirect environmental aspects. Our direct environmental aspects are, for example, the energy, emissions or water consumption. They arise as a direct result of production and the related brewery processes as well as those of the logistics center and are within our control and influence. Indirect environmental aspects occur indirectly through our activities, aspects that are not fully within our control. Examples are employee traffic or the purchasing of products and in this case, we take the opportunity of promoting environmentally-friendly awareness.

We assess the environmental relevance of our aspects by means of a scheme based on the following three criteria: quantitative significance, projected future development and the potential risk for the environment.

In addition, the control potential of the single aspects is considered in order to formulate specific environmental aims. Monitoring the environmental aspects enables us to discover weak points, exploit potential for improvement and derive our environmental activities from them.

As a reference figure for our data collection, we have decided to base our calculations on produced hectoliters of beer because this benchmark best reflects our activity. A hectoliter corresponds to 100 liters, or 100 "Maß" of beer.

KPIs Reference values	Unit	2019	2020	2021	2022	2023
Production beer	Hectoliter [hl]	453,070	357,647	406,411	442,272	450,344
Headcount	Number	167	176	173	176	184

6.1 Direct environmental aspects

We have identified the following KPIs as the most important direct environmental aspects with the greatest environmental impact. These are also the so-called core indicators of the environmental management system.

6.1.1 Energy consumption

When producing beer, energy is needed for the single process steps. On the one hand, thermal energy is used, which is generated by a natural gas fired steam boiler. On the other hand, refrigeration is supplied by an ammonia refrigeration system using glycol, a food grade refrigerant.

Fuel consumption is assigned to logistics as a whole because that is where we manage the fleet. To reduce fuel consumption, the company fleet is being converted to hybrid vehicles. Optimized routes are exploited in the case of truck fuel consumption, keeping it as low as possible. Shuttle transports between brewery and logistics center are organized in such a way that shuttles only run when fully loaded. Electricity consumption in logistics could also be further reduced by optimizing the heat pumps.

Our total renewable energy consumption is equal to our electricity consumption because we purchase 100% green electricity. This corresponds to 24% of the total energy demand.

Direct energy consumption could be further reduced compared with the previous year. The implemented measures and the continued constant energy-efficient operation made this possible. The respective share of non-alcoholic beer and bottling remains high. Specific heat consumption is below 11% industry average.

Our electricity consumption in 2023 remains below industry average for a company of our size and has fallen compared with the previous year, but we nevertheless continue to work on savings here too.

		2019	2020	2021	2022	2023
Energy Brewery						
Total direct energy consumption per hl	kWh/hl	41.14	40.77	41.95	40.52	38.94
Electricity consumption per hl	kWh/hl	8.66	9.85	9.10	8.94	8.80
Heat consumption per hl	kWh/hl	32.44	30.70	32.72	31.53	29.72
Total consumption of renewable energy per hl	kWh/hl	8.66	9.85	9.10	8.94	8.80
Energy Logistics Center						
Electricity consumption incl. heat pumps per hl	kWh/hl	0.54	0.76	0.65	0.53	0.50
Fuel consumption per hl	kWh/hl	2.01	1.86	1.62	1.89	1.71

6.1.2 Water

Water constitutes the largest share of raw materials in beer. This means that our production consists of roughly 95 % water. Accordingly, it is not only one of the most important raw materials for us, but its consumption is also increased compared to other resources. The second significant consumption of water results from cleaning pipes and systems as water is used as a carrier for detergents. There is potential for savings here too and this is constantly being optimized. Consumption values for 2023 are somewhat below those of the previous year as the first measures show their effectiveness. Savings in water usage remains one of the main goals.

In addition, our wastewater is constantly monitored and its condition determined by means of temperature and pH testing. By measuring the chemical oxygen demand (COD) we can determine the input of oxidizable substances into the wastewater. The wastewater is discharged into a balance tank of the Technical University of Munich. In future, construction of a collection tank for ethanol will result in a lower pollution of the wastewater through organic substances.

As there is almost no water consumption at the logistics center, the figures here are very low.

		2019	2020	2021	2022	2023
Water brewery						
Water consumption per hl	hl/hl	5.74	5.68	5.75	5.67	5.59
Wastewater	hl/hl	4.62	4.90	4.90	4.73	4.59
Water logistics center						
Water consumption per hl	l/hl	0.75	0.79	0.66	0.79	0.80
Wastewater	l/hl	0.75	0.79	0.66	0.79	0.80

6.1.3 Waste

Residual material from beer production constitutes the largest part of our waste and this can be recycled as valuable feedstuff for animals. The residue brewers grains and malt dust produced in the mash house result in 100% certified feedstuff. This is primarily fed to dairy cows. The surplus yeast from fermentation and maturation is a nutrient-rich feedstuff for pigs. These by-products, which would otherwise have to be disposed of, are thus part of the circular economy and enable us to achieve a recycling quota of more than 90 %. Other recyclable materials such as old labels, broken glass and crates or foils have been sorted by us for years and disposed of with the corresponding waste code in order to be transferred for recycling depending on the material type. For many years, we have been working with two waste disposal companies who are dependable partners for recycling.

Since 2019, the repackaging of our products for export is no longer outsourced and more cardboard waste is generated internally as a consequence. Integration into our production processes enables us, however, to more effectively monitor the sorted disposal and material efficiency.

In our bottling operations for the German market, we exclusively use reusable goods consisting of three different bottle shapes. Broken bottles or those with signs of wear must be sorted out here after a certain time; these are collected separately and the glass waste is transferred for recycling. The share of waste glass has increased in the last year because the German reusable bottle pool has increasingly deteriorated, and a large number of bottles had to be sorted out for quality and safety reasons.

The following shows an overview of our waste generation over the years.

		2019	2020	2021	2022	2023
Waste brewery						
Total waste per hl	kg/hl	0.99	1.01	0.77	0.82	1.13
Total hazardous waste per hl	kg/hl	0.0012	0.0013	0.0029	0.0000	0.0084
Waste glass	kg/hl	0.51	0.50	0.33	0.41	0.64
Waste logistics center						
Total waste per hl	kg/hl	0.07	0.05	0.04	0.07	0.05
Total hazardous waste per hl	kg/hl	0.0028	0.0000	0.0000	0.0000	0.0000

6.1.4 Material usage

Besides raw materials, detergents and packaging are the most important materials. As our brewery mainly works with reusable items, we consider here the use of detergents. Regarding paper, all parts of the enterprise are taken into account.

Consumption of caustic soda could be reduced by optimizing the cleaning processes on the keg filling system. In addition to this, work is ongoing to identify further savings potential and use cleaning agents according to the minimum principle.

In the logistics center there is no material consumption for production because only finished goods are received and shipped here. Besides the storage areas, there are also administrative offices on site, where the paper consumption per employee in the logistics center can be used as a key indicator for material.

		2019	2020	2021	2022	2023
Material usage brewery						
Caustic soda per hl	kg/hl	0.98	1.30	1.09	1.21	1.13
Detergent	kg/hl	0.34	0.46	0.38	0.29	0.26
Material usage logistics center						
Paper	Sheets per employee annually	164	156	171	236	236
Material usage of whole company						
Paper	Sheet per employee annually	2.395	2.273	2.312	2.273	2.174

6.1.5 Emissions

Pollutant, noise and odor emissions impacting the environment arise both from using energy and from the production process. Organizational measures, process optimization and using the respective state-of-art technology help us to minimize these emissions or – when possible – to avoid them completely. By using green electricity in the brewery, we could save roughly 2050 t of CO_2 emissions in 2023. The logistics center´s energy supply has zero emissions thanks to using renewable electricity. By relocating the packaging system to the brewery´s own premises, long delivery routes to the external packaging service provider could also be saved. Thanks to lower heat consumption, brewery emissions could be reduced. Fuel consumption is accumulated and attributed to logistics and has decreased compared to the previous year. Additional measures are being taken to address emissions in this area.

		2019	2020	2021	2022	2023
Emissions brewery						
Greenhouse gas emissions per hl	tCO_2eq/hl	8.01	7.67	8.46	8.24	7.93
Total emissions into the air per hl						
SO_2 per hl	g/hl	0.37	0.38	0.38	0.37	0.43
NO_x per hl	g/hl	5.81	5.51	5.70	5.61	5.38
PM per hl	g/hl	0.25	0.23	0.24	0.24	0.23
Emissions logistics center						
Greenhouse gas emissions per hl	tCO_2eq/hl	0.45	0.40	0.34	0.42	0.41
Total emissions into the air per hl						
SO_2 per hl	mg/hl	0	0.0	0.0	0.0	0.0
NO_x per hl	mg/hl	0	0.0	0.0	0.0	0.0
PM per hl	mg/hl	0	0.0	0.0	0.0	0.0

6.1.6 Biological land use

There is very limited space at our site on the Weihenstephan hill and this leaves little room for creating near-natural areas. When building the logistics center, special attention was therefore given to a compensation area created on site and care is take here to leave the land as natural as possible, thus creating a habitat with sufficient food supply for bees and other insects.

		2019	2020	2021	2022	2023
Land use related to biodiversity – brewery						
Total land use per year	m^2	52,396	52,396	52,396	52,396	52,396
Total sealed land per year	m^2	51,196	51,196	51,196	51,196	51,196
Total near-natural land at the site per year	m^2	1,200	1,200	1,200	1,200	1,200
Land use related to biodiversity – logistics center						
Total land use per year	m^2	23,489	23,489	23,489	23,489	23,489
Total sealed land per year	m^2	11,515	11,515	11,515	11,515	11,515
Total near-natural land at the site per year	m^2	11,974	11,974	11,974	11,974	11,974

6.2 Indirect environmental aspects

We have assessed the following issues as the most important indirect environmental aspects:

6.2.1 Purchasing of raw materials

Our raw materials are water, malt, hops and yeast. We source our water from the Freising municipal utility company that treats groundwater from the Isar wetlands. Our yeast is a pure culture that we obtain from the neighboring Research Center Weihenstephan for Brewing and Food Quality. When selecting our barley and wheat malt, we pay special attention not only to the quality, but also to the origin. Here, we work exclusively with Bavarian maltsters. We source our hops mainly from growers in the Hallertau with whom we have had contracts for many years. The world´s largest hop growing region lies only 20 km away from the brewery, which gives us the chance to inspect the harvest on site every year and maintain a close relationship to our hop growers. We have generally maintained close relationships to growers and maltsters for decades. This means that not only our partners, but also we have certainty in terms of prices and harvest sourcing.

6.2.2 Purchasing of goods

When procuring our materials, we pay special attention to supply chains. Here, long-term partnerships with our suppliers are also important for us. When we assess the environmental impacts, delivery distances, production as well as the environmental behavior of the individual partners are evaluated. When sourcing materials, we also always prefer the more environmentally-friendly option where it is possible and makes sense.

6.2.3 Company logistics

The Weihenstephan brewery fleet has been gradually converted to hybrid vehicles over the past years. But that´s not all: a large number of forklifts are also being used in the meantime, both in the logistics center and at the brewery itself. Even some of the trucks that shuttle between the two sites are already partly running on electric power.
Since 2017, administrative employees have been able to use a BMW i3 for short, business-related trips in the region.

Pool vehicle with e-drive, in operation since 2017

7. Employees

7.1 Heath care

The health of our employees is a valuable asset that we promote. All desk workplaces have been equipped with adjustable desks and ergonomic office chairs. Besides the job bike already mentioned, there are further activities and offers that continue to focus on fitness and health.

- Health day with vaccinations, eye and hearing tests, lung function test, blood test; voluntarily paid for by the Weihenstephan brewery beyond mandatory care
- In-house gym with modern equipment
- Teams that take part in leisure and sports events (Weihenstephan Panorama Run, beach volleyball tournament, etc.)

In order to make this area measurable for us too, we would like to publish a key figure. The average sickness rate for Germany in the year 2023 was 6.76 %.

Key figure 2023	
Average sickness rate %	6.34

7.2 Occupational safety and emergency preparedness

By means of instructions and notices, all employees are fundamentally and regularly trained in occupational and environmental protection measures and how to handle hazardous substances.

Our managers, employees and safety officers are a well-established team that takes measures based on legal requirements to improve occupational safety and in so doing effectively prevent accidents and their consequences for the environment.

We are obliged to systematically evaluate the risks our employees are exposed to when working and then derive the necessary occupational safety measures from these risks. This is ensured by the following measures: risk assessments, various training sessions, operating instructions, first-aid in the workplace and preventive occupational medical checkups. For all measures, we are advised and supported by an external safety expert. Our apprentices are also made aware of this topic and work on group projects regarding occupational safety and preventive measures to avoid accidents. The young employees at our brewery are thus confronted with these topics from the very beginning and learn to deal with them in a critical and detailed manner. With regards to fire safety, our employees undergo targeted fire drills and learn how to use fire extinguishers.

We prevent acute health hazards with the help of regular in-house first-aid courses. In addition to this, a de¬fibrillator is intended to provide rapid assistance in the case of heart failure. These measures are currently supported by 17 trained first responders. As part of the annual substitution review, critical hazardous substances are identified and, where possible, replaced by less dangerous substances. This is an ongoing process.

Here too, we would like to publish the accident rate for the first time to have a key figure as a reference point for evaluation and improvement. The annual average in the Food and Hospitality Trade association is 27.76 reportable work accidents per 1,000 full-time employees.

Key figure 2023	
Accident rate Rate per thousand employees	48.9

7.3 Training and promotion of young talent

One of the most important aspects of sustainability is the training of skilled workers and is the reason we hire apprentices and trainees for technical and commercial positions every year. Our apprentices and trainees are offered employment beyond contractual periods under collective agreement – because our aim is not only to guarantee young talents a future-proof and comprehensive education, but also to retain them at our brewery in the long term. We also have working students and those studying in the dual education system in various areas who are completely integrated into our daily work routines. In some cases, they are also allowed to work on their own projects.

We also offer work experience in various forms. We are always happy to give young people an insight into the working world and support them in finding the right education.

Key figure 2023	
Share of employees in education in %	4,9

7.4 Environmental awareness among employees

The newly introduced job bike has proved very popular amongst our staff, with several of our employees switching to bicycles shortly after we introduced this system.

Our social project “ohne autoMOBIL“ (without autoMOBILE) also aims to raise awareness for the sustainable mobility topic amongst our Weihenstephan employees. By changing our fleet concept and promoting clean energy, we are trying to increase awareness and act as a role model.

7.5 The Weihenstephan family

What would the brewery be without its employees? Everyone, from technical staff to administration, makes a significant contribution to the global success of the brand. Not only do we include our business partners from across the world as family – but also here in our closest circle in Weihenstephan, it has been the case for a long time. This can be seen in the many friendships and the family atmosphere that we enjoy here.

The family atmosphere at the brewery can also be seen in the many activities we undertake together throughout the year:

- employee celebrations
- company excursions
- all hands helping at the "Weihenstephaner Bergfest"
- participation in in-house campaigns, such as for the new employer branding campaign "Wir sind Bier" ("We are Beer")
- trips to local festivals together
- ... and much more!

8. Social projects and Isar Sempt Werkstätten

As a medium-sized brewery with regional roots, we are committed to promoting social projects in the region and, above all, to supporting environmental projects at the site.

Environmental projects:

- Financial support for the Climate School Project run by the community foundation "Bürgerstiftung Freising". Under this name, the foundation is once again organizing a competition at schools in Freising. Schools can enter the competition with projects focused on sustainability, ecology and energy. We have committed our financial support to the prize pool, which is several thousand euros.
- Participation in a planting project to mark the 50th anniversary of Weihenstephan Triesdorf University of Applied Sciences (HSWT), which is also certified according to EMAS. With the so-called „tree sponsorship", an arboretum is being planted at the foot of the brewery. For every tree planted, the Mountain Forest Project is supported with 1,000 more trees.
- Supporting Pure Water for Generations e.V.
  Core topics are the renaturalization of streams and rivers and so-called „water-education", where attention is drawn to water and water courses.

Social projects:

- Promoting culture through sponsoring, for example, the creative acting ensemble KSE Freising
- Donation to people in need („Menschen in Not") – a project for needy people in the district
- Sponsoring sports clubs (for example SV Vötting)
- Sponsoring running events to promote healthy exercise
  (BIG Run, Folk Festival Run)
- Supporting children´s aid and organ donation

Manuel Eser, Editor-in-Chief of the Freisinger Tagblatt, received a 2000-euro donation for people in need from brewery director Prof. Dr. Josef

Collaboration with Isar Sempt Werkstätten

We have products for export that require hand labeling. And for many years, we have been working with Isar Sempt Werkstätten, where our export beers get their finishing touch with great love for detail and craftmanship. Isar Sempt Werkstätten GmbH is a facility within the Lebenshilfe Freising and Erding that supports and accompanies people with disabilities.

In close cooperation with the technical and logistics departments, it is planned which orders will be sent to the workshops.

This cooperation is also bearing fruit in other ways. In July 2024, a film crew from Lebenshilfe visited the brewery. An inclusive group made up of people with and without disabilities had taken on the task of providing news and reports in plain language. And of course, brewing beer was remarkably interesting for them. The reporters were allowed to go behind the scenes of the brewery and explore corners that are normally not accessible to the public. For one thing has always been important for us: Whoever works with Weihenstephan, should also understand Weihenstephan and our values. We stand for the highest possible quality - and with Lebenshilfe Freising and Isar Sempt Werkstätten, we have found the perfect partners.

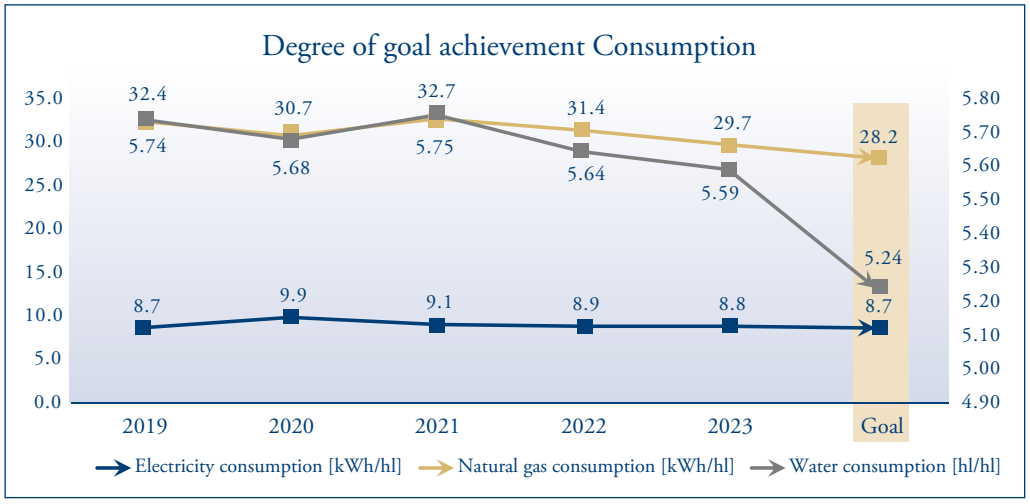
9. Environmental goals and measures

9.1 Achievement of goals

After the first three years as a certified EMAS company, we would like to take stock and evaluate the degree of goal achievement:

We have exceeded our goals for thermal energy and electricity consumption. Unfortunately, we could not reach our target for water consumption but were able to reduce it. The goals were set based on 2020 as evaluation year.

The degree of goal achievement for 2024 was therefore satisfactory and the measures implemented were effective.



9.2 Future outlook and goal definition

As we are committed to improvement not only through EMAS but also through our policies, we would like to go even further and have once again set ourselves ambitious goals for 2028. Additionally, we want to expand these goals and have set ourselves a target to reduce emissions. As a baseline, we will use our most recent values from the evaluation year 2023.

Area	Savings	Target value
Energy (kWh/hl)	5 %	28.2 kWh/hl
Electricity (kWh/hl)	1 %	8.7 kWh/hl
Water (hl/hl)	6 %	5.24 hl/hl
Emissions (t CO_2eq/hl)	5 %	7.5 tCO_2eq/hl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BAYERISCHE STAATSBRAUEREI
Weihenstephan
ALTESTE BRAUEREI DER WELT
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9.3 Environmental aims and measures

In accordance with our important environmental aspects and the resulting fields of action, we have derived specific environmental aims. Practical implementation of these aims takes place through measures that we are constantly reviewing in the sense of a continuous improvement of our environment protection. Our environment program documents the status of the planning and implementation. It defines measures, deadlines and designated persons responsible for each field of action and is shown below in a consolidated form.

Environmental program 2024-2028

Environmental aspect	Area
Energy, electricity and water	Production
Energy, electricity and water	Production
Emissions	**Whole brewery**
Emissions	Whole brewery
Emissions	Fleet
Emissions	Fleet
Emissions	Refrigerants
Emissions	Boiler house
Emissions	Production
Energy	**Whole brewery**
Energy	Mash house
Energy	Mash house
Energy	Mash house
Energy	Whole brewery
Energy	Boiler house
Water	**Whole brewery**
Water	Production
Water	Fermenting and maturation cellar
Water	Fermenting and maturation cellar
Water	Fermenting and maturation cellar
Water	Bottling cellar
Water	All employees

Aims	Measures	Deadline
Assessment compared to the industry	Participation in company comparison for energy to detect savings potential	Continuous
Reduction of water, electricity and energy costs for operating the new cellar, reduced beer losses and pipe lengths	Construction of a new combined cellar	2024
Emissions savings of 5%		**2024-2028**
For scope 1 and 2	Avoidance, saving and offsetting	2024
Reduction of fuel consumption	Checking of e-shuttles	2024
Reduction of fuel consumption	Hybrid or e-vehicle as company car	Continuous
Reduction of refrigerant leaks	Purchasing of new equipment	2024
Minimized operation of the oil reserve tank	Efficient maintenance planning	Continuous
Resource saving of forklift gas	Purchasing of electric forklifts	From 2024
Energy savings from 2024 to 2028		**2024-2028**
Energy savings in the mash house	Extension of insulation measures	By 2025
Energy savings in the mash house	Hot water savings by optimizing wort cooling	From 2024
Identify energy optimizing potential	Commission external service provider	2025
Identify energy optimizing potential	Check energy efficiency network	2025
Reduction of thermal loss	Check improvement of insulation on boiler	2025
Water savings		**2024-2028**
Process water	Optimization of the CIP cleaning settings	Continuous
Process water	Review of process control system discharge	2025
Process water	"Optimization of pipes: Moving of centrifuge"	2025
Process water	"Optimization of pipes: Moving of yeast department"	2026
Bottle washer	Optimization of water consumption	2024-2028
Saving water	Employee training on saving water	Annually

Electricity	**Whole brewery**
Electricity	Whole brewery
Electricity	Whole brewery
Electricity	Whole brewery
Electricity	Pressure tank cellar
Electricity	Whole brewery
Electricity	Logistics center
Energy	Production
Material	**Whole brewery**
Material	Production
Material	Production
Material	Production
Material	Production
Material	Administration
Material	Sustainable materials
Material	Advertising material
Improvement of EMS	**Whole brewery**
Improvement of EMS	Purchasing
Improvement of EMS	Data collection
Social	Whole brewery
Employees	Appraisal of employee leadership
Employees	Promoting environmental awareness
Regional projects	Sponsoring

Electricity savings of 1 %		**2024-2028**
Electricity savings	All illuminants replaced by LED	Continuous
Electricity savings	Training course on saving electricity	Continuous
Electricity savings	Check savings potential for cooling system	2025
Cooling demand savings	Replacement of equipment with high cooling demand: pressure tanks	2026
Electricity savings	Future purchases with a view to energy efficiency	Continuous
Electricity savings	Optimization of heat pumps	2024
Own electricity production	Commissioning of photovoltaic systems	2024
		2024-2028
Increased material efficiency	More accurate label orders/fewer changes/ Using up old stock	Continuous
Reduction of caustic soda consumption	Optimization of cleaning in all areas	From 2024
Detergent replacement	Testing and use of more environmentally-friendly alternative products	Continuous
Detergent minimum principle	Optimization of cleaning in cooperation with the suppliers for detergents	Continuous
Resource savings paper	Digitalization of existing processes e.g. digital inbox	2024
Workwear and merchandise	Evaluation of new suppliers and environmentally-friendly materials	From 2024
Consumables	Purchasing of more environmentally-friendly materials	Continuous
Supplier survey environmental performance	Assessment by means of environmental performance questionnaire	By 2026
Improved data collection of process data	New software for identifying and precisely recording consumers	2025
Improved illustration of sustainability topics	Improved social KPIs	From 2025
Promoting environmentally friendly employee mobility	Job bike, e-charging stations	2024
Supporting social and environmental projects		Continuous

10. Offsetting emissions

The way to CO_2-neutral production

Our approach aims to achieve CO_2 neutral production and this foresees, as a first step, avoiding all emissions that can be avoided, reducing all emissions that are within our control and compensating the unavoidable emissions. The principle is to take responsibility for action. We therefore fully compensate Scope 1 and Scope 2 emissions and are CO_2 neutral in this respect. From Scope 3 we offset the emissions from freshwater consumption because water serves as the raw material for our beers. We proceed as follows:

1. Calculation of CO_2 equivalents for the year 2023

The emissions considered were calculated according to GEMIS 5 with upstream processes. These calculation factors can be found in the annex. Below, the breakdown according to the Greenhouse Gas Protocol is described:

Scope 1 Direct emissions
Emissions resulting from consumption of natural gas and heating oil
Fleet vehicle fuels: company cars, trucks, fork-lift trucks
Refrigerants

Scope 2 Indirect emissions from purchased electricity
Electricity is 100% green electricity and therefore has no emissions

Scope 3 Upstream and downstream value chain
Water, essential for us as the most important ingredient of beer
Fuel and energy-related emissions from natural gas included
(calculated according to GEMIS 5.0, therefore with upstream processes)

Emissions	Tons CO_2 equivalents
Natural gas consumption	3,291
Heating oil	61
Fuels	185
Refrigerants	34
Electricity	0
Water	83
Total CO_2 equivalents in tons	3,654

2. Offsetting CO_2 emissions with efficient cooking stoves in Burundi

Offsetting is once again an important topic, and we decided in favor of a project that provides significant local assistance in Burundi. This project is part of an aid package for those returning to Burundi. Specifically, efficient cooking stoves are provided that burn cleaner and therefore reduce air pollution and its negative impact on health. The new, improved cooking stoves also need less firewood (the same amount of wood lasts a whole week instead of two days), thus helping against deforestation and producing less CO_2.

Cooking stoves only a part of the aid package

Besides the cooking stoves, the aid package includes clothes, food, medication and more. This project achieves an impressive annual CO_2 reduction of 395,379 tons. Additionally, deforestation of 2,500 hectares of forest per year is avoided. The project is implemented by "OBEN", an established local NGO that has been committed to climate protection projects for more than 15 years.

11. Validity declaration

Environmental Verifier's Declaration

on verification and validation activities
according to Annex VII of the Regulation (EC) No 1221/2009 and amending regulation 2017/1505 and 2018/2026

The undersigned, Dr.-Ing. Reiner Beer, EMAS environmental verifier with the registration number DE-V-0007, accredited or licensed for the scope 11.05 and 52.10 (NACE Code Rev. 2), declares to have verified whether the site or the whole organisation as indicated in the environmental statement

BAYERISCHE STAATSBRAUEREI WEIHENSTEPHAN

Alte Akademie 2, 85354 Freising (Zentrale)

Clemensäner-Ring 17, 85356 Freising

Registration No DE-155-00354

meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 and amending regulation 2017/1505 of 28.08.2017 and 2018/2026 of 19.12.2018 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

By signing this declaration, I declare that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009 and amending regulation 2017/1505 and 2018/2026,
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment,
- the data and information of the environmental statement of the organisation/site reflect a reliable, credible and correct image of all the organisations activities, within the scope mentioned in the environmental statement.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body under Regulation (EC) No. 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Nuremberg, 20. December 2024

Dr.-Ing. Reiner Beer
Environmental Verifier

12. Annex

12.1 Overview of absolute consumption data

Energy
Electricity
Whole company
Brewery
Logistics center (LGC)
Oil
Gas
Liquid gas
Diesel
Gasoline
Total direct energy consumption
Total consumption of renewable energy
Total generation of renewable energy
Material/ Raw materials
Paper
Refrigerants
Caustic soda 50%
Detergents and disinfectants
Belt lubricant
Malt
Water
Fresh water brewery
Fresh water LGC
Wastewater brewery
Wastewater LGC
Total water consumption
Waste brewery
Waste for recycling
Paper, cardboard boxes
Waste glass, color-pure
Waste labels
Foils
Diatomaceous earth
Wood
Total hazardous waste

Unit[1]	2019	2020	2021	2022	2023
MWh					
	4.169	3.795	3.964	4.188	4.186
	3,925	3,523	3,698	3,952	3,961
	244	272	265	236	225
MWh	15.22	77.91	50.00	24.31	191.17
MWh	14,697	10,978	13,297	13,945	13,384
MWh	2.07	1.55	1.71	1.85	1.76
MWh	837	631	624	757	666
MWh	76	33	34	81	105
MWh	18,640	14,581	17,047	17,922	17,537
MWh	4,169	3,795	3,964	4,188	4,186
MWh	0	0	0	0	0
Sheets	400,000	400,000	400,000	400,000	400,000
kg	7.2	13	7.1	10.7	22.3
t	444	406	397	537	510
t	156	121	137	127	118
t	3.8	5.4	4.8	3.5	3.9
t	8,194	6,420	7,321	8,047	8,010
m^3	259,934	203,133	233,789	250,738	251,867
m^3	338	282	268	352	361
m^3	209,343	175,243	198,949	209,166	206,805
m^3	338	282	268	352	361
m^3	260,272	203,415	234,057	251,090	252,228
t	60.4	50.0	51.2	52.5	56.6
t	48.4	41.6	44.2	37.7	40.0
t	231.7	177.2	132.9	180.9	287.5
t	43.2	40.7	40.6	43.3	56.9
t	24.4	25.1	25.1	25.2	24.2
t	24.1	18.3	14.5	22.6	41.4
t	14.3	7.5	3.3	0.0	3.2
t	0.5	0.5	1.2	0.0	3.8

12.1 Overview of absolute consumption data

Waste logistics center (LGC)
Waste for recycling
Paper, cardboard
Foils
Wood
Total hazardous waste
Land use in relation to biodiversity
Total land use brewery
Total sealed land brewery
Total near-natural area brewery
Total land use LGC
Total sealed land LGC
Total near-natural year a the LGC site
Emissions
Greenhouse gas emissions
Total emissions into the air
SO_2 brewery
NO_x brewery
PM brewery
SO_2 LGC
NO_x LGC
PM LGC

12.2 Applied emissions factors

Conversion factors according to GEMIS 5.0 incl. upstream chain		**CO_{2eq}**
Green electricity according to invoice	g/kWh	0
Natural gas	g/kWh	245.90
Heating oil	g/kWh	317.07
Diesel	g/kWh	204.13
Gasoline	g/kWh	236.23
Liquid gas	g/kWh	276.73
Water	g/kg	0.33

Unit[1]	2019	2020	2021	2022	2023
t	7.50	5.50	7.50	9.00	8.50
t	13.32	3.20	1.40	10.74	10.08
t	3.06	4.80	3.80	2.90	2.70
t	7.62	4.78	2.42	8.35	2.87
t	1.27	0	0	0	0
m^2	52,396	52,396	52,396	52,396	52,396
m^2	51,196	51,196	51,196	51,196	51,196
m^2	1,200	1,200	1,200	1,200	1,200
m^2	23,489	23,489	23,489	23,489	23,489
m^2	11,515	11,515	11,515	11,515	11,515
m^2	11,974	11,974	11,974	11,974	11,974
tCO_2eq	3,836,420	2,888,965	3,514,811	3,644,591	3,570,747
kg	169	135	152	163	193
kg	2,632	1,969	2,315	2,481	2,423
kg	113	83	96	106	103
kg	0.05	0.05	0.05	0.06	0.06
kg	0.09	0.09	0.10	0.12	0.11
kg	0.01	0.01	0.01	0.01	0.01

[1]The direct greenhouse gas emissions are expressed as CO_2 equivalents. Each relevant greenhouse gas has a different contribution to the greenhouse effect and is converted by means of a Global Warming Potential (GWP = greenhouse gas potential). The most well-known greenhouse gas, carbon dioxide (CO_2), serves as comparative value.

SO_2	NO_x	PM
0	0	0
0.010	0.157	0.006
0.189	0.210	0.023
0.007	0.334	0.022
0.16	0.18	0.05
0.081	0.154	0.016

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Bayerische Staatsbrauerei Weihenstephan
Alte Akademie 2
85354 Freising
Telephone: +49 81 61 / 536-0
Email: info@weihenstephaner.de

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