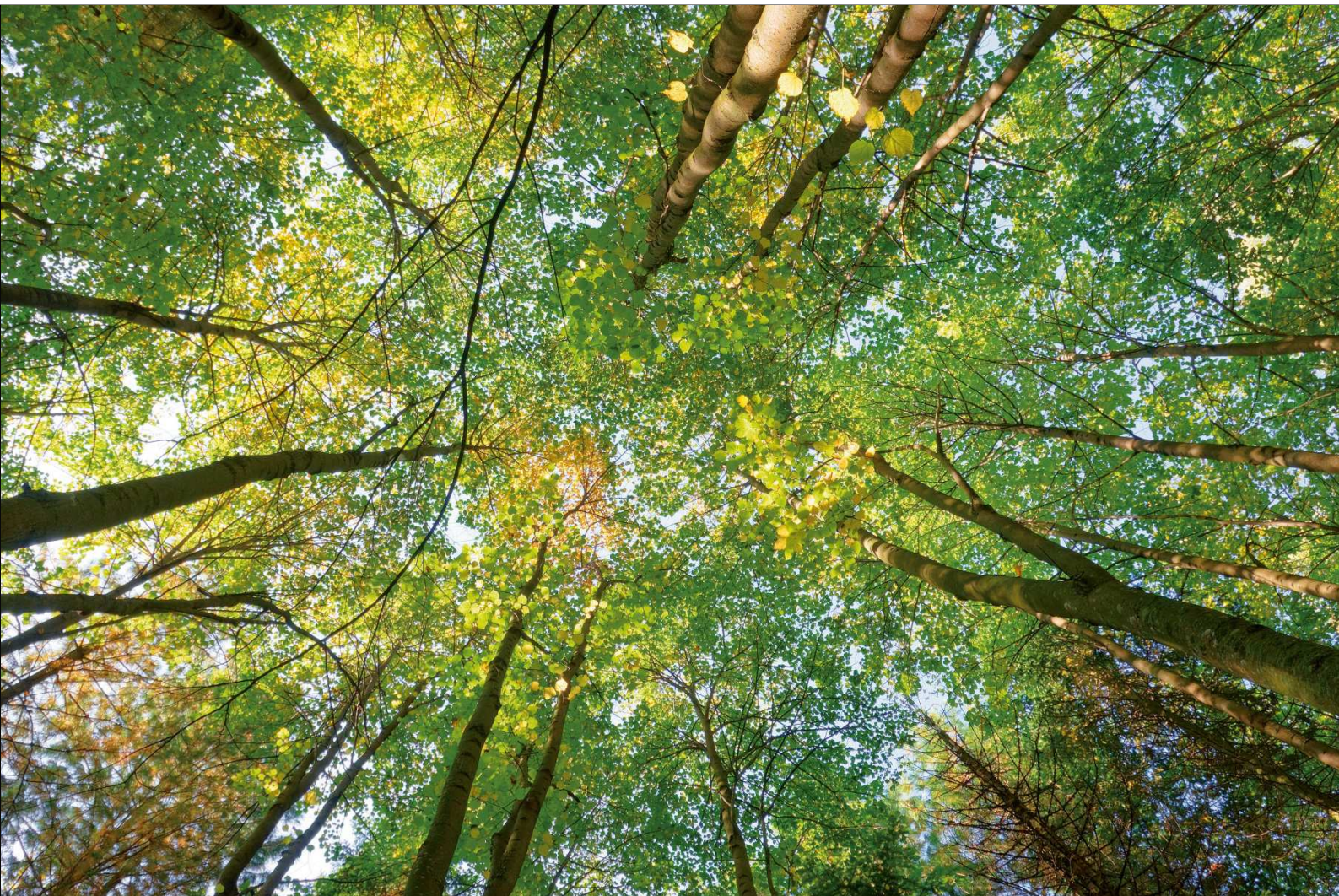




Environmental Statement 2016

Technik für Möbel


Hettich



In accordance with EU regulation no. 1221/2009 (EMAS III)
Hettich Holding GmbH & Co. oHG

with the companies in Kirchlengern / Bünde

Paul Hettich GmbH & Co. KG
Hettich Management Service GmbH
Hettich Maschinentechnik GmbH & Co. KG
Hettich Marketing- und Vertriebs- GmbH & Co. KG
Hettich Logistik Service GmbH & Co. KG

The protection of our environment, the protection of the health of our employees and the conservation of natural resources are an integral part of our economic success.

We therefore operate according to foresighted sustainability guidelines, thus making an important contribution towards protecting nature and life.

Our principles are:

- introduction of environmentally-friendly and energy-saving production procedures
- resource-saving design of our products
- taking active precautions to prevent interruption of operational procedures
- prevention of waste and ensuring environmentally-friendly disposal of unavoidable waste
- use of environmentally-friendly basic commodities and raw materials
- protecting the health of our co-workers and fellow human beings

This environmental impact statement is a public declaration to our customers, suppliers and employees to show that environmental protection is treated seriously by HETTICH in Kirchlengern / Bünde. We are continually developing and implementing our environmental programme. We intend to reduce existing environmental pollution still further and actively promote the conservation of resources. We report at regular intervals on the success of the measures we introduce.

The updated environmental statement for 2017 will be put forward for intermediate validation in April 2017.

Kirchlengern/Bünde, April 2016



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Table of Contents

1	The company	6
2	Environmental management	8
2.1	Environmental principles	8
2.2	Description of the environmental management system	9
2.3	Eco-Audits	11
3	Environmental aspects of our activity	12
3.1	Environmental relevance of the companies	12
3.2	Determination and monitoring of important environmental aspects	15
3.3	Environmental goals and programme	17
4	Presentation of operative environmental performance	23
4.1	Raw commodities and operating materials	24
4.2	Waste	26
	Total amount of waste	26
	Specific amount of waste	27
	Waste amount wood panels	27
4.3	Water and sewage	28
	Water consumption	28
	Waste water	29
4.4	Energy	31
	Climate protection company	31
	Energy savings with new buildings	31
	Hettich Forum B1	32
	Production hall C2	33
	Production hall B7	33
	Energy generation	34
	Energy consumption	35
	Proportion of renewable energies in energy consumption	35
	Gas consumption	36
	Power consumption	37
	Heat consumption	38
4.5	Exhaust and noise	38
	Exhaust emissions	38
	Direct emissions	39
	E-mobility test	40
	Indirect emissions	41
	Noise emissions	41
4.6	Soil and ground water	42
5	Other factors of the environmental performance	42
	Approvals	42
	Legal norms cadastre	42
	Environmental accidents	42
6	Company contact person	43
7	Name of the authorized environmental advisor	44
8	Validity of the environmental impact statement	45

List of Drawings

Fig. 1:	Organigram EHS officers Kirchlengern/Bünde	10
Fig. 2:	Comparison figures – Specific amount of waste	27
Fig. 3:	Comparison figures – Rejection quota wood panels	27
Fig. 4:	Comparison figures – Specific water consumption	28
Fig. 5:	Handover of certificate „Climate Protection Company“	31
Fig. 6:	Comparison figures – Specific process gas consumption	36
Fig. 7:	Comparison figures – Specific power consumption	37
Fig. 8:	Comparison figures – Specific heat consumption	38
Fig. 9:	Comparison figures – Specific CO ₂ emissions	39

List of Tables

Table 1:	Products HPH – Drawer runners and drawers	12
Table 2:	Products HMT – Working hours	13
Table 3:	Products HLS – Packages	14
Table 4:	Important environmental aspects Kirchlengern/Bünde	15
Table 5:	Completed activities up to April 2016	19
Table 6:	Environmental goals	21
Table 7:	Raw commodities and operating materials used - 2015	24
Table 8:	Essential types of waste - 2015	26
Table 9:	Water consumption - 2015	28
Table 10:	Waste water - 2015	29
Table 11:	Waste water load of the sewage treatment plants - 2015	30
Table 12:	Own energy generation - 2015	34
Table 13:	Energy consumption – Comparison 2015 and previous years	35
Table 14:	CO ₂ emissions through energy consumption (power, gas, local heat)	38
Table 15:	Vehicle fleet 2015 incl. mileage / consumption	39
Table 16:	Average consumption vehicle fleet 2015	39
Table 17:	Business trips railway 2015	39
Table 18:	Surface areas 2015 [m ²]	42



1 The Company



Hettich - Technik für Möbel is recognized all over the world. Our concept is based on four main pillars: quality, innovation, closeness to customers and reliability. This is what Hettich stands for; this is what we stand for! These pillars are all of equal importance, ensuring our consistency.

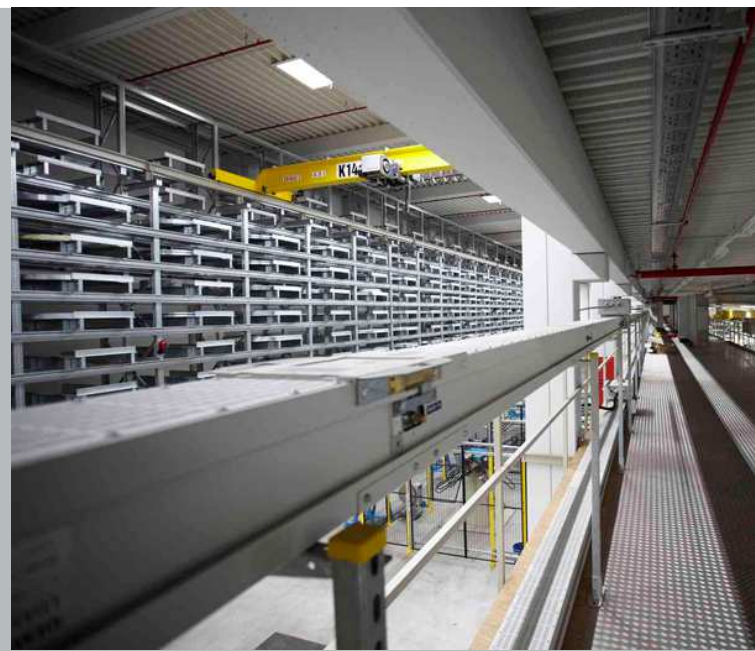
As one of the largest manufacturers of furniture fittings and partner to the furniture industry around the world, Hettich with its kitchen, bathroom, office, living and bedroom furniture fittings sets standards in function, quality and comfort. An internationally active group of companies with over 5,900 employees has evolved under the Hettich trademark. Customers are the furniture industry, specialist hardware dealers, home improvement and Do-It-Yourself (DIY) branch. Hettich operates production locations in North America, Europe and Asia, and has 39 subsidiaries and local offices around the world. At the company headquarters in Kirchleugern/Bünde/ Germany, the group companies mentioned below employed about 2,100 employees in 2015. Many divisions operate three shifts.

Hettich Holding GmbH & Co. oHG (HHO) controls the company development within the Hettich group, determines the comprehensive environmental principles of the Group, and authorizes budgets and large individual projects. The Environmental Department is a part of the HHO and reports directly to the Holding Management.

The largest company in Kirchleugern is **Paul Hettich GmbH & Co. (HPH)**, which develops and produces drawer runners and complete drawer systems in metal for the national and international furniture industry, trade and do-it-yourself market.

Hettich Management Service GmbH (HMS) provides internal services to all companies within the group. These services include the preparation of prototypes, customer samples, small batch production, life tests of batch products and prototypes as well as other services, e.g. data processing and the central purchasing activities.

Hettich Marketing- und Vertriebs-GmbH & Co. KG (H MV) is responsible for the sales of all products of the group and is therefore the connecting point between production and customers.



Hettich Maschinenteknik GmbH & Co. KG (HMT) is the company responsible for the construction of special purpose machines. It develops and manufactures assembly machines, robot cells, welding devices and other special purpose machines, not only for the Hettich Group but also for the automotive, electrical and building hardware industry.

Hettich Logistik Service GmbH & Co. KG (HLS) runs the incoming goods departments for finished products and commodities, their storage, picking and transportation packaging. Goods are delivered exclusively by external transport agents.

The property of the site Kirchlengern, Vahrenkampstraße 12 bis 16, is located in an industrial area. This is the postal address, but not the whole property. The premises are bordered to the east by a public swimming pool, to the west, south and north are residential and industrial facilities. Immediately adjacent to the premises in Kirchlengern is the new HLS Logistics Centre (In der Lohge 50, Bünde) which was built in 2005. This centre is integrated into the overall processes in Kirchlengern. In addition, it also carries out logistics functions for the entire Hettich Group. North of HLS, the production hall C2 was built by HPH.

The premises are not located in a designated nature reserve. A stream called Markbach which empties into the river Else, flows adjacently to the premises. The flood plain of the river Else extends to a railway embankment which borders the company premises on the southern side. The designated flood plain is mostly declared as nature preserve. Here, the railway track forms the border of the nature preserve, too. The river Else itself as FFH area (according to the European Habitats Directive) is an important ecological habitat.

A small parcel of land between HLS and HPH is defined as a particular nature reserve, however it is not immediately adjacent to the company. Although the company is not located in a direct nature reserve, we do our utmost to reduce emissions as far as possible with a complex plan of measures (e.g. by upstands in the delivery area of hazardous substances, lockable restraining devices, mobile sewer sealing systems and emergency sets, training of employees, regular inspections and audits and practical simulation of trained emergency procedures). Hereby we could always safely prevent emissions of hazardous substances into the soil, the ground water, gullies or even into one of the above-mentioned nature reserves.

The validation and this consolidated environmental statement refer to the six Hettich Group companies mentioned above which are located in Kirchlengern / Bünde.

2 Environmental Management

2.1 Sustainability guidelines

The Hettich Group of Companies accepts its responsibility for the conservation of natural resources and for health and safety at work for all employees. This is particularly reflected in the following aspects:

- We include **environmental protection** and **occupational health and safety** in the company mission statement.
- We develop furniture fittings that meet the highest standards of **quality, safety, environmental sustainability** and **energy efficiency**. These characteristics are also included in the designing of the production processes and procurement of production facilities.
- We understand **energy efficiency** in all our activities as an integral part of environmental protection.
- We regard **environmental protection** and **occupational health and safety aspects** as separate criteria in all relevant processes, preferably in quantifiable form.
- We provide an **effective environmental protection** and **occupational health and safety organisation** and necessary information, human resources and budgets.
- We ensure the implementation of necessary measures through **environmental and occupational health and safety committees**.
- We review **hazardous situations** and the company's **emergency response plans** at regular intervals and update them where necessary.
- We commit ourselves to annually defined **environmental and occupational health and safety targets** and review the performance within the framework of a management review.
- We regard **legal requirements**, relevant **standards**, further **obligations** and the state of the art as minimum requirements.
- We see **continuous improvements** in the sustainable reduction of energy consumption, avoiding environmental pollution, health risks and hazards in workplace as a compulsory part of the corporate culture.
- A successful **environmental and occupational health and safety management** requires responsible employees at all levels. We support the active participation with appropriate initial and further training.
- We involve **suppliers, service providers** and **customers** in our endeavours regarding environment and occupational health and safety.
- We maintain, through information and cooperation, a relationship with the **general public** and local and national **authorities** that is characterized by frankness and trust.



2.2 Description of the environmental management system

The environmental management system applies and implements the environmental principles and goals defined by the Board of Directors. This guarantees that the goals defined in the EMAS III are maintained, the operating licence is received and official requirements are fulfilled when operating the production facilities. The application of the environmental management system also guarantees that negative impact on the environment is prevented, or at least reduced, in the best possible way for all activities.

All management systems were combined into Hettich's integrated management system (MSH) including the environmental management, occupational safety management, quality management etc. In so doing, consistent higher-level processes are applied all over Hettich Group.

All employees, particularly management personnel, are responsible for the implementation of the management system.

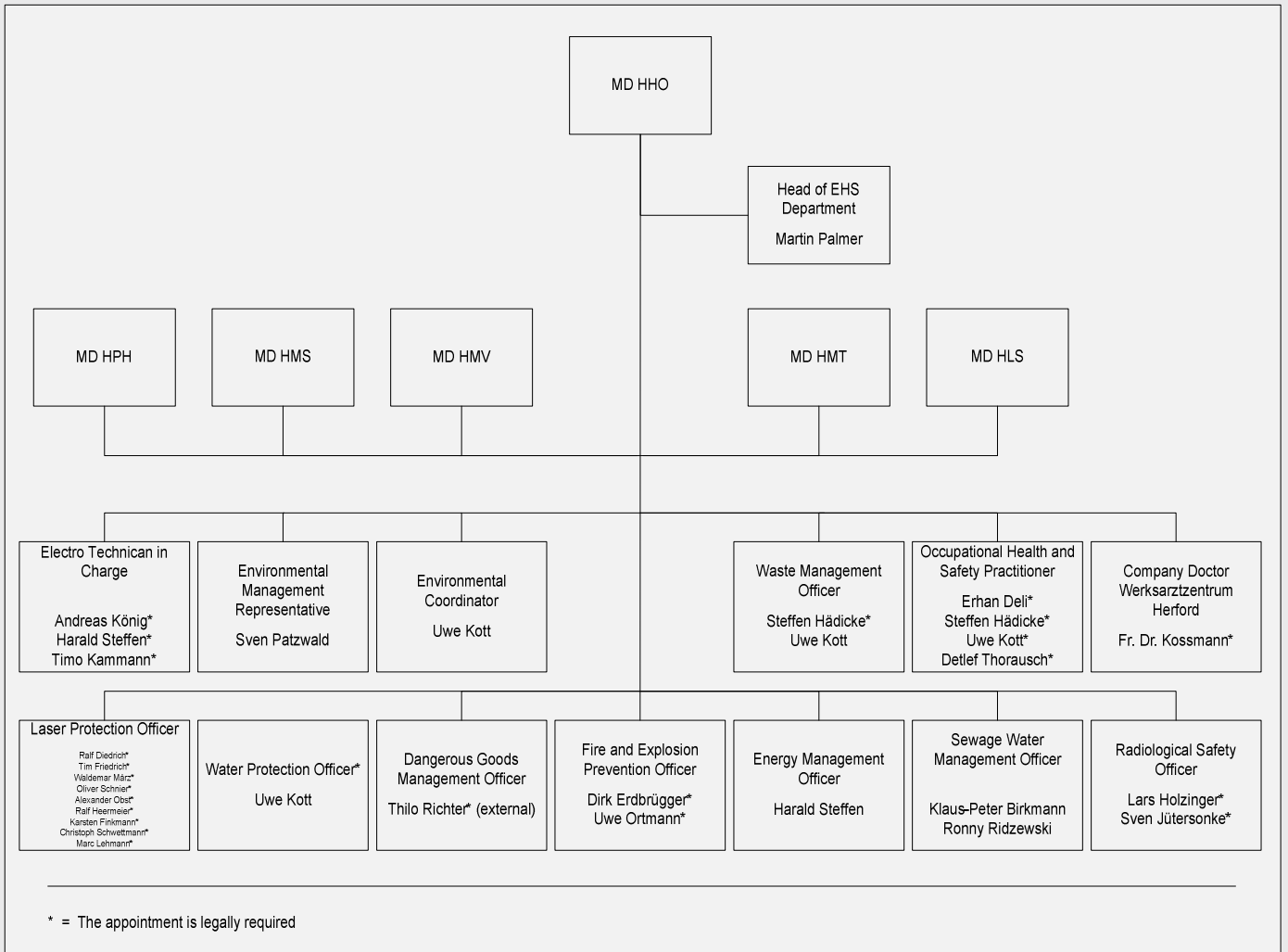
Legal compliance, e.g. with respect to their significant environmental impact, is ensured through internal regulations. All occupational health and safety and environment-related changes are checked continually by external service providers and provided to us with comments.

The employees in Kirchlengern / Bünde are integrated in several different ways into the environmental management system. This is done via the continual improvement processes, the corporate suggestion for improvement system, the "environmental blackboards", the environmental committee, target agreements, the environmental programme and a data file containing environmental documentation, which can be accessed by all employees having PC work stations.

Employees are designated within the environmental management system, who are responsible for monitoring the environment-related areas assigned to them. Their area of responsibility covers the entire location. They report directly to the Managing Directors. The organizational integration of all functions that are concerned with environmental protection (environmental management representative, environmental co-ordinator, water protection officers, etc.) is shown in the following organizational chart (figure 1).

2 Environmental Management

Fig. 1: Organigram EHS officers Kirchlengern / Bünde





2.3 Eco-Audits

Eco-Audits or inspections are carried out regularly in order to evaluate the environmental efficiency of our company and to continually improve the environmental protection programme. We check whether environmental management activities are in accordance with the environmental programme, that operational procedures correspond to the environmental management system, and that the environmental management system is suitable enough for effective implementation of the environmental principles in the company.

In addition to evaluating the environmental management system, the Eco-Audit or inspection checks whether the environment-related activities conform to the existing environmental legislation and the EC Eco-Audit directive (EMAS III) and ISO 14001:2015.

An environmental audit is carried out once every three years for the entire site at Kirchlengern / Bünde. An interim audit is also carried out every year in order to check and determine the effectiveness and functional integrity of the environmental management system. The Environmental Management Representative, site Kirchlengern / Bünde, is responsible for performing and co-ordinating the Eco-Audit and the interim audit. He is supported by the site Environmental Co-ordinator and the Hettich Group Environmental Management Representative.

The eco audits or inspections are carried out by means of an audit plan and comprise interviews, documentation checks and inspections. Checks are carried out using function-specific protocol checklists in which findings, measures and implementation deadlines are documented.



3 Environmental Aspects of our Activity

3.1 Environmental relevance of the companies

Paul Hettich (HPH)

The production techniques used in Kirchlengern / Bünde require the use of cooling and lubricating fluids, oils, chemicals and other operating materials. These materials are defined as water-endangering and hazardous materials and appropriate safety precautions are required. These materials are potentially hazardous to the environment and are stored and used in specially equipped storage areas and production plants in accordance with the statutory requirements.

Raw commodities and material-related aspects are linked directly to environmental protection through the production processes and plant-related aspects. A reduction in the environmental pollution can only be achieved if serious consideration is given to all aspects during the development phase for products and plants. Due to the product characteristics a very good recyclability is given (indirect environmental aspect).

Different production processes are applied in the Kirchlengern site in the production of drawer runners and drawer systems at HPH.

Drawer runner production

The strip steel used as raw material for the production of the drawer runners is processed using presses and profiling and punching systems. This equipment has particular environmental relevance as hydraulic oil as well as cooling and lubricating fluids are used.

The pre-manufactured basic components are partly joined together by welding machines or laser welding systems. The components are then joined to the drawer runners in automatic assembly machines and by robots.

Drawer production

After being pre-manufactured on pressing/bending/welding systems, they are first cleaned and pre-treated for powder coating. This is done by means of acid degreasing, followed by cascade washing.

After the drying process, the cleaned drawers are sent to the low waste and low emission powder coating. A drawer model is produced from precoated strip material. In this case, degreasing and powder coating is not done in-house. The components are then fitted together, partly by robot, into pre-finished complete drawers.

Drawer profile production

These are produced using profiling and pressing as well as assembly systems with high-strength and energy-saving TOX insertion techniques. The powder coating is done in the same way as described for the drawers. The resulting cleaning and rinsing water used in the pre-treatment is treated in the company's own sewage treatment plant.

Table 1 shows the annual amount of products.

Table 1: Products HPH – Drawer runners and drawers

Period	Products [t]
	2015
Drawer runners and drawers HPH	77,693



Hettich Maschinentechnik (HMT)

HMT develops and produces custom-built special purpose machines for internal and external customers. The use of classic metalworking applications is comparatively low. Furthermore assembly operations of special machine constructions dominate.

In 2015 the working hours increased by approximately 6 percent compared to 2014 due to the introduction of new products and procedures.

Table 2: Products HMT – Working Hours

Period	Working hours
	2015
Industrial HMT	73,868

3 Environmental Aspects of our Activity

Hettich Logistik Service (HLS)

At HLS logistics processes are developed in carefully coordinated time windows with the help of modern technology and software systems. In addition to the processing of incoming goods and warehousing of products, a focal point is dispatch of goods to customers and subsidiaries with formation of packages (see Table 3). The significant environmental relevance of HLS lies in the use of transport packaging. With regard to the indirect environmental impact, the special importance lies in the selection of the transport routes and the logistics service provider.

Despite the slight production reduction of HPH in the same period, the amount of packages at HLS increased by approximately 13 percent. This can be traced back, among other things, to the fact that not only products of the Kirchlengern / Bünde site are sent via HLS.

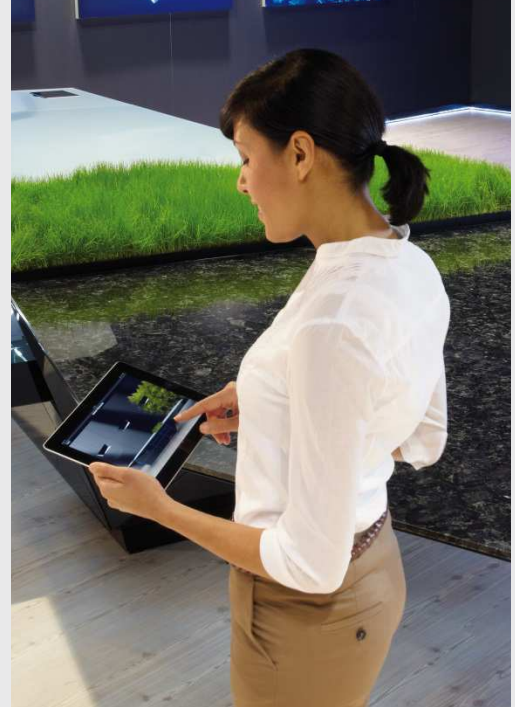


Table 3: Products HLS - Packages

	Packages
Period	2015
Packages HLS	646,751

Hettich Management Service (HMS)

In prototype and small batch series, HMS uses lathes and milling machines as well as plastic injection mounting plants to process metal, wood and plastic. Furthermore, presses and other machines are also used for sheet metalworking. The Department Corporate IT (computer systems, cooling systems, emergency district heating power station A8) is also located at HMS.

Hettich Marketing und Vertrieb (HMV)

HMV is a sales company. The main environmental pollution here comes from the sales representatives who cover long distances each year using company cars. (siehe Table 15).

Hettich Holding (HHO)

HHO carries out purely administrative tasks. No activities are carried out that are of particular environmental relevance. The main focus of HHO is on intergroup tasks. In this connection, the principles for the company group are developed.



3.2 Determination and monitoring of important environmental aspects

All environmental effects of our company are gathered according to the requirements of EMAS III and evaluated regularly concerning possible measures. From this, targets are derived (see Table 5 and 6).

The following table shows a summary of the results. These results depend on the assessment of importance with the levels "high", "average", "low". Only those environmental aspects, which are considered as being important with at least average effects, are shown here. The assessment is carried out by an expert determination on the basis of the following aspects:

Frequency of appearance

How often is the input material used or the output material emitted?

Consumption-/ Output rate

How high is the consumption-/ output rate?

Environmental damage potential

Which impacts on the environment can be expected? At this, direct as well as indirect impacts are considered (e.g. emission for the power generation).

Controllability – normal operation

How good are the changes recognizable at normal operation? Normal operation condition: Plant works without fault, all security and control systems are fully functional.

Controllability – Special situations

How good are the changes recognizable in special situations (in the event of fault, system failure, fire, catastrophes)?

Control potential

How is the scope of influence for the improvement of environmental impacts assessed?

Compliance with legal requirements

How intensive are legal requirements adhered to (e.g. from legal requirements, requirements of regulatory approvals and other obligations)?

Table 4: Important environmental aspects Kirchlengern/Bünde

Activity/ Product	Environmental aspect d: direct, type i: indirect, type	Influence expected? [y/n]	Important effects?	Reason
Profiling Disposal of cooling lubricant	d: Waste disposal	y	average	Frequent usage but good controllability
Profiling Steel consumption	d: Consumption of resources	y	high	High consumption rate and high indirect environmental impact
Profiling Power consumption	d: Energy consumption i: Consumption of resources	y	high	High consumption rate and high indirect environmental impact
Assembly Power consumption	d: Energy consumption i: Consumption of resources	y	high	High consumption rate and high indirect environmental impact
Drawer production Gas consumption	d: Energy consumption i: Consumption of resources	y	average	Good control potential and average consumption rate
Transport Fuel consumption	d: Consumption of resources i: Consumption of resources i: Traffic emissions	y	average	Average consumption rate and good control potential
Land and buildings Power consumption	d: Energy consumption i: Consumption of resources	y	average	Small consumption rate and good control potential
Land and buildings Heat consumption	d: Energy consumption i: Consumption of resources	y	average	Only seasonal consumption, which is just marginally because of a good building structure

In order to improve the environmental performance, defined environmental targets that are implemented through appropriate measures are assigned to the important environmental aspects given here.

3 Environmental Aspects of our Activity





3.3 Environmental goals and programme

We have drawn up an environmental programme in order to implement our environmental principles and achieve our future environmental goals. The concrete measures are defined and project officers are assigned to ensure implementation. The achievement of the environmental goals will be guaranteed through the timely implementation of the individual points of the environmental programme.

The programme points agreed by the management and the environmental advisor will be entered in a three-year list (EMAS audit cycle) and their status will be updated. The new environmental programme points suggested by the environmental committee or in the monthly "Jour Fixe Umwelt und Sicherheit" (environment and safety) will be agreed by the management and will be checked at the next appointment with the environmental advisor. The environmental points that have not been completed at the end of the three-year period will be carried forward into the next environmental programme. Previous experience has shown that, through this procedure, there is a significantly higher implementation rate in the environmental programme.

The environmental goals and measures will be checked and updated in the interim audit and in the environmental audit. Furthermore the Management Representative, the Environmental Coordinator and the other officers, ensure that the environmental goals are planned, implemented and monitored by the environmental committee as well as the "Jour Fixe". The Management Representative and the Environmental Coordinator are responsible for monitoring and ensuring that measures are carried out on schedule. They report to the Managing Director and the environmental committee.

We have transferred the pending points of the former programme to our new environmental programme (2015 – 2017) and added further points. At the time of the revalidation in April 2016, 16 new points have been added. 57 percent of the current (up to 2017) dynamic environmental programme have been completed. 85 percent of the measures completed by April 2016 have actually contributed to environmental relief. That is why we can talk of a reasonable degree of implementation in the dynamic environmental programme.

An energy efficiency team of qualified employees from different specialist departments has been put together to analyse all areas and work out possible areas of improvement. Furthermore supplementary energy efficiency audits have been introduced within the scope of a proven production management method (TPM). As a result of these audits, we could achieve energy savings of more than 378,000 kWh p. a. in 2014.

We continue to analyse potential (see environmental programme) and in so doing we expect a considerable reduction, especially in the amount of power consumed. This is also reflected in the environmental targets achieved last year and the current year for this area alone.

3 Environmental Aspects of our Activity

Perpetuum 2016 Energy Efficiency Prize

On 24 February 2016 the Hettich trainees Marcel Pavel and Henrik Klußmann (Paul Hettich GmbH & Co. KG) received the junior staff PERPETUUM 2016 Energy Efficiency Prize for optimizing a powder coating machine. The trainees, both in their third year of apprenticeship, independently developed a demand-oriented control system for a powder coating plant. As a result, the annual savings amount to 192,000 kWh of electric power and thus to almost 50,000 euros per year. This measurement already pays off after one month and is also suitable for other locations of the company.



Sustainability Award 2016 of the Environmental Foundation of the East Westphalian economy

As early as 1999, the Hettich group of companies has cooperated with a comprehensive school in Löhne, the „Bertolt-Brecht-Gesamtschule“. In the course of this we developed a concept of a „globalization workshop sustainability“ for the grade12 advanced course for social studies. The previous development of the sustainability issues of globalization at school is the basis for the workshops. Building on this, the globalization workshops take place at Hettich for practical absorption. On this occasion the students have the opportunity to match their theoretical knowledge with the experiences of an internationally operating company. The students are given the possibility to gain deep and genuine insight into the sustainability aspects of globalization, particularly regarding the focal points India and China, as well as into different national environmental standards and their implementation.

For this longtime cooperation „ globalization workshop sustainability“ Hettich was awarded - in equal shares with another company - the 10,000 euro Sustainability Prize 2016 of the Environmental Foundation of the East Westphalian economy.





Tab. 5: Completed activities up to April 2016

Environmental aspect	Environmental target / measure	Reference year	Responsible (company)	Date	Status
Consumption of resources	Reduction of the external need for paint removal about 50 % by optimising the internal paint removal plant.	2014	Production Manager (HPH)	05/2015	Done. Because of the optimisation of the internal paint removal process, the external paint removal could be reduced by 80 %.
	Reduction of the reject rate in the powder coating C2 by 3 % by using new technologies.	2015	Production Manager (HPH)	05/2015	Done. The expected saving of 3 % could be reached.
	Reduction of the scrap after downtime of the profiling plant about 3 m per down time.	2013	Production Manager (HPH)	06/2015	The measure has been implemented and tested on one plant. Because of the success the conversion for further plants was arranged. At about 15 downtimes per plant and shift, reductions can be made.
	Reduction of defect euro pallets about 25 % by performing receiving checks, communication with suppliers and repairs.	2012	Dispatch Manager (HLS)	12/2014 extended to: 06/2015	Done. A reduction about 22 % could be achieved. The initiated measures are still checked regularly.
Energy consumption	Reduction of cooling energy by centralization of the cooling plants in production hall B. Werk B. Savings of approx. 50 %.	2011	Facility Management (HMS)	12/2012 extended to: 12/2013 extended to: 12/2017	Done. The cooling plant was modified. Savings of 45,000 kWh could be achieved.
	Renewal of the lighting in the basement A5 with LED. Savings of 16,000 kWh/a.	2014	Production Manager (HPH)	06/2015	Done. The saving of 16,000 kWh/a could be achieved.
	Inspection of the furnace technology and – control as well as the material input for the reduction of the gas consumption about 20 % (B4/B5).	2011	Production Manager (HPH)	12/2009 extended to: 06/2012 extended to: 06/2014 extended to: 12/2015	Done. One out of two powder coating plants (Building B4/B5) has been converted to a new furnace technology. A significant reduction could not be observed. Further plants will not be converted until their technology must be replaced anyway.
	Due to the old age of the CHP unit in the heating station, a replacement investment must be done. The old refurbished CHP unit will be used furthermore for peak loads.	2015	Facility Management (HMS)	06/2015	Done. A new CHP unit was installed and is now being used.
	Power savings of 187,000 kWh/a for lighting in C2 due to classification into sensible groups and switching on by means of presence detectors.	2014	Production Manager (HPH)	06/2015	Done. Savings based on switching frequency of presence detectors.
	Reduction of power consumption for cleaning of profiles through modified technology.	2014	Production Manager (HPH)	03/2016	Done. Savings of 28,000 kW/h could be achieved through reducing the consumption of compressed air.

3 Environmental Aspects of our Activity

Table 5: Completed activities up to April 2016

Environmental aspect	Environmental target / measure	Reference year	Responsible (company)	Date	Status
Consumption of resources	Reduction of the external paint removals about 50% by optimising the internal paint removal plant.	2014	Production Manager (HPH)	12/2015	Done. Reduction of 80 % of the paint removal effort could be achieved.
Energy consumption	Reduction of gas consumption of the heating energy in the pre-treatment in C2 by 25 % due to utilization of waste heat.	2012	Production Manager (HPH)	12/2013 extended to: 12/2015	Done. The planning by an external engineering office had been made, results are available since 04/2015, for following implementation. Savings were achieved by utilization of waste heat.
	Reduction of the power consumption of the ventilating system through controlled regulation and a new filter technology of about 15%.	2013	Facility Management (HMS)	12/2015	Done. Installation of filters by the middle of 2015. The filter change is ensured in reduced frequency. The power consumption is about 10 % lower. Saving was achieved.
	Reduction of the cooling energy for a measuring machine about 50 % (-15 kW power) by decreasing the area which has to be cooled.	2014	Control of measuring and monitoring devices (HPH)	05/2015	Done. Half of the cooling plants were shut down.
	Hydraulic balance and renewal of pumps in the heating and cooling system.	2012	Facility Management (HMS)	12/2014 extended to: 12/2015	Done. Point fully implemented.
	Savings of 192,000 kWh/h through need-based control of the fans of the powder coating plant in A8.	2014	Training Manager (HPH)	03/2016	Done. The saving could be achieved. For this our trainees have been awarded the Perpetuum 2016 Energy Efficiency Prize for junior staff.
Traffic emissions	Reduction of fuel consumption through combined rail/truck/ship transportation within Europe.	2014	Dispatch Management (HLS)	12/2015	Done. Significant CO ₂ emissions could be achieved through approx. 230 combined transportations.
	Reducing the fuel consumption of the fleet of company vehicles by preselecting an "ECO"-model per reference class.	2014	Management vehicle pool (HMS)	12/2015	Done. An „ECO“ model is available in each vehicle class.



The following table summarizes the essential pending and the new environmental goals

Table 6: Environmental goals

Environmental aspect	Environmental target / measure	Reference year	Responsible (company)	Date	Status
Consumption of resources	Reduction of 20 % water consumption for the pre-treatment plants.	2012	Production Manager (HPH)	12/2014 extended to: 12/2018	One part of the project (condensate return) must be followed up, the other part (recycling) has been classified as not feasible.
	Reduction of the material consumption at the assembly plants.	2015	Production Manager (HPH)	12/2016	Reduction of the material waste through camera systems and technical measures to less than 1 %.
	Prolongation of the service life of milling tools by 50 %.	2015	Production Manager (HPH)	12/2016	The first machine has been obtained and met the expectations. Another one has still to be purchased.
Energiever- brauch	Reduction of power- and gas consumption in the pre-treatment and at the baking furnaces of the powder coating by using a new sensor technology. Savings up to 20 %.	2011	Production Manager (HPH)	08/2012 extended to: 12/2014 extended to: 12/2015 extended to: 12/2016	The previous sensors do not correspond to the requirements. A suitable technique has been found and several areas of the facilities have already been converted. A coating booth still has to be converted. The expected savings have been achieved.
	The heating energy demand of the new production hall B7 is supposed to be approx. 48 % below latest energy saving regulations. This means a CO ₂ saving of 336,000 kg/a.	2016	Facility Manager (HMS)	06/2017	In progress.
	When applying cooling lubricant on strip material reducing the power consumption for the generation of compressed air about 90 % and reduce lubricant consumption by using a new application technology.	2014	Competence centre profiling (HPH)	12/2015 extended to: 12/2016	A device is currently tested.
	Avoiding energy consumptions at downtimes by identifying potentials and implementation of saving opportunities in the context of the self developed TPMe method. Target: 150,000 kWh.	2015	Production Manager (HPH)	01/2016 extended to: 12/2016	In 2015 only savings of 15,000 kWh could be achieved due to staff shortages. The project will continue in 2016.
	Extension of the meter concept on machinery and plant level for electricity consumption and visualisation of the consumption in absolute values and specific key figures. Development of a 3-year plan for implementation.	2015	Control technology manager (HPH)	04/2018	In progress.
	Regular information to all employees about energy saving possibilities.	2014	EHS-Department (HHO)	12/2015 extended to: 12/2016	In the instructions (production) and the e-learning units corresponding information should be implemented.
	Own energy generation by means of photovoltaics.	2015	Facility Management (HMS)	06/2017	A photovoltaic system with an output of 150 kW is supposed to be installed on the new building B7.

3 Environmental Aspects of our Activity

Table 6: Environmental goals (continuation)

Environmental aspect	Environmental aspect	Environmental aspect	Environmental aspect	Environmental aspect	Environmental aspect
Energy consumption	Reduction of capacity of the UPS systems by 85 % , as the demand no longer exists. The power consumption for maintenance can hereby be reduced by a similar value.	2014	Facility Management (HMS)	12/2016	Open
Traffic emissions	Reduction of the fuel consumption of the fleet of company vehicles. Saving of 30 % per vehicle by using hybrid vehicles for regional transport. Vehicles of the type BMW I3 with range-extender as pool-vehicle and a VW Golf plug-in hybrid for the collection of usage experiences should be applied.	2011	Management vehicle pool (HMS)	12/2014 extended to: 12/2015	The vehicles have been obtained and are used respectively. Evaluation will be done at the end of the test, in late 2018.
	To complete the test of electric vehicles a pure electric car (BMW I3) is to be used for travel in the regional space as a pool car.	2014	Management vehicle pool (HMS)	12/2015	The vehicle has been obtained and is used respectively. Evaluation will be done at the end of the test, in late 2018.

4 Presentation of Operative Environmental Performance

The development of the operational environmental protection over the last years is described below and illustrates the environmental performance of our company site. In order to be able to illustrate the changes effectively when compared to the previous years, we have introduced relative environmental performance values. The raw materials used (strip steel, powder paint and wood panels) have been taken as reference sizes when determining these values. On the one hand, the environmental performance values allow the effectiveness of environmental relief measures to be illustrated without being influenced by production variations. On the other hand, meaningful environmental performance values assume at least a constant product and process spectrum on the site.

The table below summarizes the development of index values compared to the previous year:

1. Specific amount of waste	+ 5,3%
2. Rejection quota wood panels	+ 14,5%
3. Specific power consumption	+ 20,8%
4. Spezifischer Stromverbrauch	+ 4,6%
5. Specific process-gas consumption	+ 0,3%
6. Specific heat consumption	+ 15,0%
7. Specific CO ₂ emission	+ 8,9%

Problems with the significance of environmental indicators can occur as a result of delayed production activities. It must also be noted that material thicknesses have been reduced (specific product weight) over the last years. This can have an adverse affect on the environmental performance values, as more product items are produced from the raw materials. Also because of production-related changes on the site in the last years (e.g. energy-intensive laser welding plants, increased use of transfer lines or sharply increased, energy-intensive use of robots, increased office technology, increased single layer powder-coating,...), the performance values are in some cases pushed to the limits.

With the adjustment of the management system to EMAS III, a few core indicators (CO₂ emissions, energy consumption, waste generation) have also been adjusted. Many of the newly required indicators have been a fixed part of the management review of Hettich for many years. From the measurement of greenhouse gases and the other emissions into the air, it is clear to us that only the CO₂ emissions which have also been taken into consideration in the last few years have a corresponding relevance.



4 Presentation of Operative Environmental Performance

4.1 Raw commodities and operating materials

Various raw commodities and operating materials are required either directly or indirectly in the production of our products, the operation of production systems, for packaging the products, etc. The purchasing of the raw commodity amount and the operating material amount was within the decline in production in 2015.

Table 7: Raw commodities and operating materials 2015

Period	Raw commodities and operating materials [t]
	2015
Strip steel / sheet metal	84,846
Wood panels	3,002
Powder paint	786
Cardboard packaging	2,570
Oils and grease	67
Cooling lubricants	11
Chemicals for paint removal	116
Chemicals for the pre-treatment and cleaning of sewage	104
Total raw and operating materials	91,502



The new European regulation on chemicals "REACH" (Registration, Evaluation and Authorisation of Chemicals) came into force on 1 June 2007. This has meant a comprehensive revision of the applicable chemical regulation. It is not only the chemical industry that is affected but also the so-called "downstream users", to which the Hettich companies in Kirchlengern / Bünde belong. They are obliged to use the chemicals and preparations only as indicated by the manufacturer. If different uses are required, the manufacturer must be requested to apply for this or the user himself must register such uses with the authorities. Furthermore bans on substances are controlled through REACH.

All necessary checks and measures have been carried out or introduced in our companies in Kirchlengern/Bünde, in order to fulfil the REACH requirements, also in relation to suppliers and customers.

We are also prepared conceptually for the conversion to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Transitional requirements exist for the introduction and implementation of the changed circumstances. The uniform system, established globally by the United Nations, for the classification of chemicals and their labelling on packages and in safety data sheets was progressively implemented for pure substances (by 12/2010) and was introduced for mixtures by 12/2015 .



4 Presentation of Operative Environmental Performance

4.2 Waste

Total amount of waste

A waste sorting system has been put into practice in Kirchlegern / Bünde covering at present 41 types of waste. The annual amounts are registered and documented both in a waste balance sheet and in the annual report from the officer waste disposal. The different types of waste are separated by type and collected for disposal in suitable containers located on the company premises. In the beginning of the year 2013, the waste disposal on site has been assigned to two new waste disposal companies. They were included in our environmental policy right from the beginning. Prior to placement of the order, the strict environmental requirements demanded in the tender were confirmed by on-site audits at the disposers.

Within the scope of waste disposal, we keep on working exclusively together with certified specialized waste management companies.

A large portion of the waste produced by us can be recycled and brought back into the economic cycle. The recycling rate is 97 percent.

In 2015 the amount of non-hazardous waste could be decreased about approx. 10 percent. The amount of hazardous waste increased by approx. 14 percent compared to the previous year. This is partly due to the complex cleaning of a production plant.

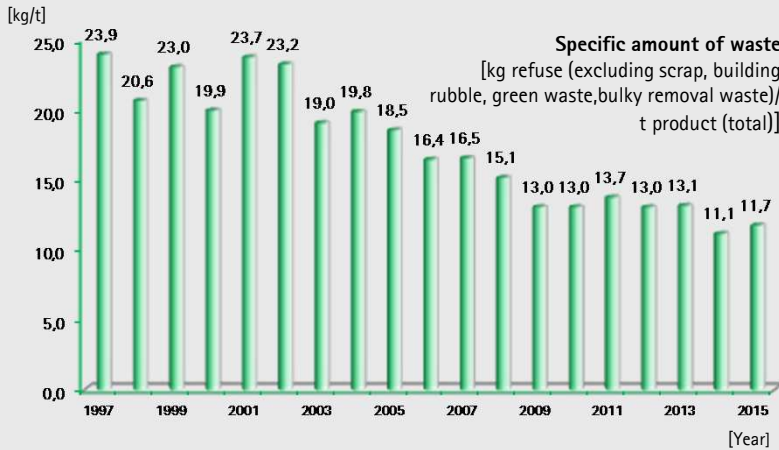
Table 8 shows the annual amount of waste for 2015.

Table 8: Essential types of waste - 2015

Period	Waste [t]
	2015
Powder paint	18
Mixed scrap	10,695
Cardboard packaging	382
Waste wood	150
Plastic	28
Other waste	203
Total amount of "non-hazardous waste"	11,476
Paint sludge	180
Phosphate water	63
Emulsion	115
Waste oils	11
Operating materials containing oil	17
Total amount of "hazardous waste"	386



Fig. 2: Comparison figures – Specific amount of waste



Please note: The presentation of the specific amount of waste has slightly been changed in 2013 by excluding the asbestos waste which accumulates at restoration works, because this kind of waste is not influenced by production.

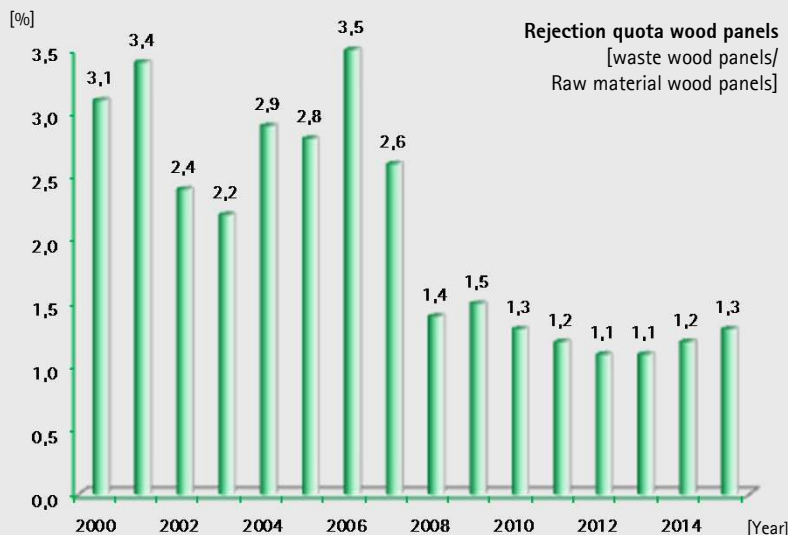
Specific amount of waste

The presentation of the specific waste (fig. 2) has been adjusted by the disproportionately represented scrap. The specific amount of waste was almost 13.0 kg/t product since 2009 and could be reduced below the long-term average with 11.7 kg/t in 2014 and 2015. There was only a slight change compared the the previous year (plus 5.3 percent).



The product content is made up of three main groups: steel, powder coating and particle board floors

Fig. 3: Comparison figures – Rejection quota wood panels



Waste amount wood panels

The rejection quota of wood panels was reduced considerably in 2006 by changing supplier. Further adjustments were made in 2007. A further significant reduction was also achieved in 2008 by optimizing processes and systems and since then remains at a low level. In 2015, we managed to keep waste amounts for the eighth consecutive year on a very low value. Only 1.3 percent of the wood panels is still waste in the absolute point of view.

4 Presentation of Operative Environmental Performance

4.3 Water and sewage

Process water is used mainly for cleaning and degreasing in the drawer production (halls A8/B4/B5/C2) in Kirchlegern/Bünde. Furthermore smaller amounts are used for the cooling lubricant supply for the profiling systems. In 2015, evaporative cooling plants were put into operation for cooling in C2. As a result the water consumption will increase during summer months.

Water consumption

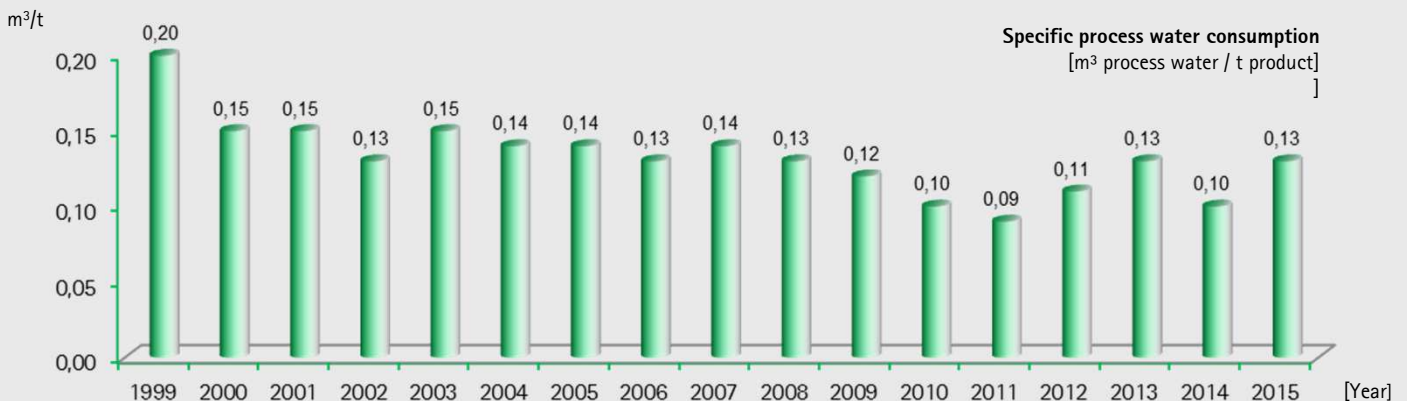
Table 9: Water consumption– 2015

Period	Water consumption [m ³]
	2015
Sanitary water	12,902
Process water (A8/B4/B5/C2)	9,823
Total consumption	22,725

The sanitary water consumption has remained more or less the same in all areas compared to the previous year. However, it increased significantly in a two-year comparison.

The specific process water consumption (see figure 4, in m³ process water/t product) is on the value of 2013 again. For a better comprehensibility of the key figure development, a monthly Jour Fixe has been organized from 2015 on between the authorised representatives. In case of demand they can soon perform a monthly analysis with the person in charge for the area. The increased water consumption could thus be completely investigated and measures could be defined when necessary. Due to the newly installed hybrid coolers in 2015, the water consumption will be slightly higher than in the previous years over the long term..

Fig. 4: Comparison figures – Specific water consumption





Waste water

Waste water accumulates in the form of production, sanitary and precipitation rainwater sewage. The production and sanitary sewage is discharged into the sewage system that is connected to the local sewage treatment plant in Löhne.

In Factory A, there are three large capacity underground rainwater retention systems that relieve the receiving water in case of heavy rainfall. The twin flow channels near A3, A8 have volumes of 690 m³ and 302 m³ respectively. The backwater channel at the building extension of A5 has a volume of 28 m³.

The part of the precipitation water coming from the roof area in factory B is passed through a surface seminatural retention reservoir with a volume of 400 m³ and then discharged directly into a small watercourse (receiving water).

The water from the roof area of the high-rack storage C1 is retained by a surface backwater reservoir with a volume of 610 m³ and a subsurface backwater channel with a volume of 27 m³.

Table 10: Waste water – 2015

Period	Waste water
	2015
Sanitary water	12,902
Waste water from treatment as well as full desalination plant	6,102

The difference between process water consumption and waste water evaporates based on the water and component temperature as well as the large surface of the product in the area of the pre-treatment plant and in drying the drawers before the powder coating.

The sewage treatment plants comprise a neutralization, a flocculation and a filtration

The surface water of the paved yard areas and the picking hall collect in a surface seminatural retention reservoir with primary clarifier and 1,400 m³ impoundment volume, before draining off into a receiving water course.

The rainwater from factory C2 accumulates in a surface retention reservoir (1,245 m³) before draining off into a receiving water course.

The waste water from the production results exclusively from the drawer production (HPH). The water is then treated in the company's own waste water treatment plant before being routed into the public drainage system. Samples are taken to ensure that limit values are observed (see Table 11).

The sewage treatment plants are monitored through our own and official measurements, maintenance work, regular inspections and visual checks. The limit values specified will certainly be maintained in accordance with the external laboratory analyses.

The concentration of substances discharged from the sewage treatment plants into the public sewage (direct discharger) results in the following annual load (calculation based on three measuring reports predetermined from public authorities for each sewage treatment plant from 2015, see Table 11) for the subsequent communal sewage treatment plant. The limit value of the parameters subject to mandatory testing had at no time been exceeded

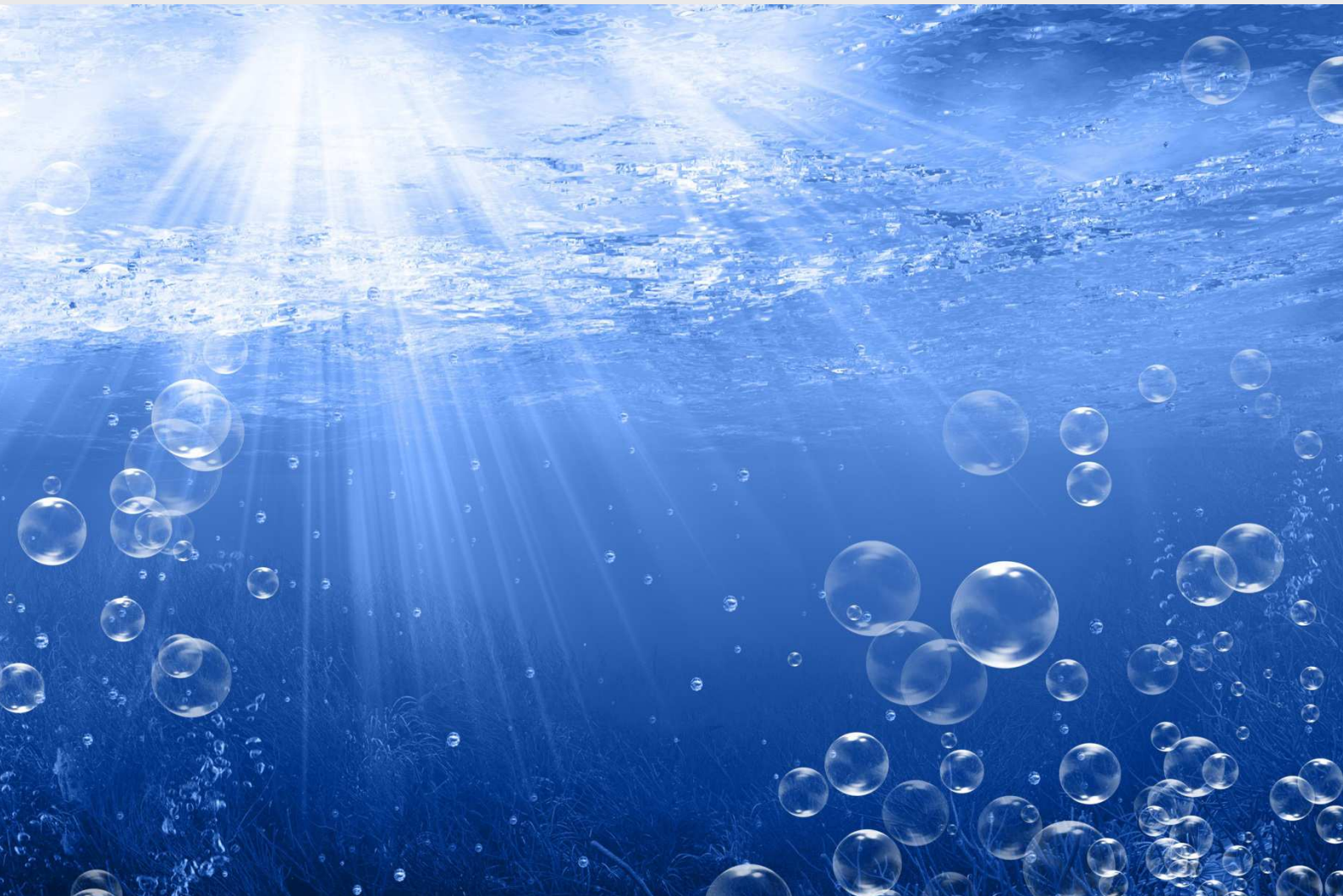
4 Presentation of Operative Environmental Performance

Table 11: Waste water load of the sewage treatment plants B4 and C2 in 2015

Waste water load of the sewage treatment plants				
Parameter	Unit	Value determined ø	Limit value	Annual load [g/a]
AOX ¹⁾	mg/l	0.10	1	610
LHKw ²⁾	mg/l	0.01	0.1	61
Zinc	mg/l	0.01	2	61
Hydrocarbons	mg/l	0.55	10	3,356

¹⁾ Absorbing organically-linked halogenates

²⁾ Low volatile halogenated hydrocarbons





4.4 Energy

For heating of buildings and degreasing baths, district heating is procured on site from a district heating plant that generates electricity as well as heat (combined heat and power). The plant came into operation in 1994 and until the beginning of 2010 also supplied heat to the neighbouring municipal swimming pool "Aqua Fun" and an adjoining housing estate.

Today, natural gas is the most important source of energy that is used to generate heat in the production facilities (baking furnaces in the powder coating as well as heating the paint removal baths) and for the combined heating and power stations A5, A8 and C5 as well as for the peak load boiler A5 und C2. The Logistics Centre which came into operation in 2006 is also heated by natural gas. A special feature here is the efficient gas-infrared heating system in the picking area.

The electricity mostly is supplied from the public grid. Since 2007, power is supplied via medium-voltage lines between the transformer substation and the factory.

Climate protection company

The success of Hettich Group's activities regarding climate protection has now been acknowledged through the admission to the "Climate Protection and Energy Efficiency Group of the German Economy". On March 1st in 2013, the Federal Minister for the Environment,

Nature Conservation and Nuclear Safety, Peter Altmaier, presented the award as „Climate protection company" to Dr. Andreas Hettich.

Fig. 5: Handover of certificate „Climate protection



Energy savings with new buildings

In 2009, the Hettich Forum opened. The building is outstanding due to a far-reaching consideration of energy and ecological aspects. This includes all areas such as use of energy, building material and area consumption. As an energy-neutral building, the Hettich Forum serves as a model for a sustainable, futuristic building design. The insulation which is 40 mm thick consists to a large extent of environmentally-friendly cellulose material.

4 Presentation of Operative Environmental Performance

Hettich Forum B1

The heating supply is secured through the company's own district heating system with its efficient heat generation from production waste heat as well as a combined heat and power system. The energy requirement of 30 kWh/m² is 80 percent under the specific requirement per year specified by the energy conservation regulation. In this way, 226,618 kWh can be saved annually, which is equal to the annual consumption of 21 separate houses. The lighting in the entire Hettich Forum uses energy-saving bulbs with dimmable, electronic ballasts.

A light management system using LED technology in the exhibition and boulevard area reduces the effective switch-on time and decreases the annual power consumption by 25 percent. In addition to the energy-saving measures, the integrated 239 m² photovoltaic system produces more than 25,000 kWh of power per year. With this output, up to 1,500 energy saving bulbs of 20W can be operated at the same time.

The greater part of the heating and warm water is supplied by the additional 6 m² thermal water system. On 5 March 2009, Hettich received the European Commission's GreenBuilding Partner certificate in recognition of exemplary planning and furnishing of the building as well as the implementation of the "Green Building" principles in accordance with the directives of the European project for the improvement of energy efficiency in commercial buildings.

In June 2009, the Hettich Group was awarded the Green Building Award for the Hettich Forum in the "New Building" category.



It has been possible to achieve a good energy balance with "0 litre house" standard for the Hettich Forum through drastic measures to reduce the energy requirement including the provision for the production of solar energy. In fact in 2009, the consumption in the building fell short of the values allowed in the Energy Conservation Regulation by 76 percent. This represents a real saving equivalent to 24,000 litres of heating oil. The CO₂

emissions avoided hereby offset 450,000 car kilometres (equivalent to 11 times round the earth).



AWARD WINNER 2009
Hettich Holding GmbH & Co. oHG

Die Hettich Holding GmbH & Co. oHG erhält die nationale GreenBuilding-Auszeichnung für verbesserte Energieeffizienz bei Neubauobjekten für das Gebäude „Hettich Forum“. Das GreenBuilding-Programm ist initiiert von der Europäischen Kommission.

dena
Nationaler Energie-Partner

Intelligent Energy Europe





Production hall C2

The requirements set by the company and the experience gained in the context of the Hettich Forum have also been used in the 14,000 m² production hall C2 which was completed in September 2012. The sustainability features include a façade which is predominantly designed of wood (renewable and 1,630 t CO₂ binding building material) and a heating requirement that is about 72 percent under the requirements specified in the building regulation (enEV). Furthermore, the electricity consumption for lighting was reduced by approx. 70 percent compared to normal lighting.

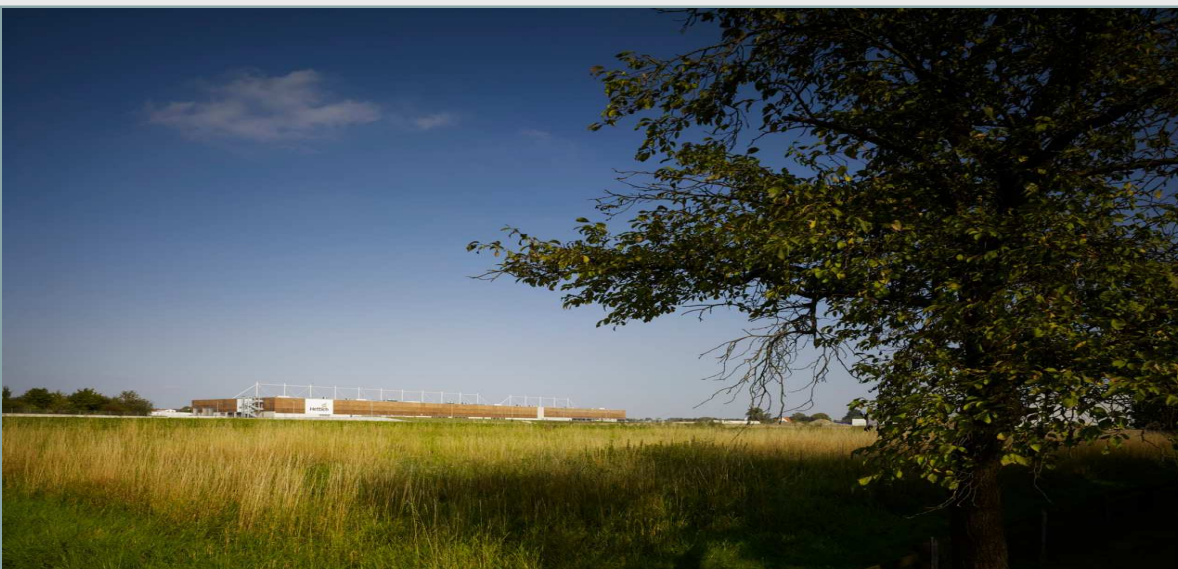
This holistic sustainability concept for the predominantly timber-built Hettich production hall was awarded the „Best Practice Energy Efficiency“ label of the German Energy Agency in the category „building-related projects“.

Furthermore, the hall constructed for production of the drawer system ArciTech was awarded the NRW Timber Construction Prize 2014. Due to the new building more than 1,600 tonnes of CO₂ have been permanently taken out of the atmosphere.



Production hall B7

The construction of the new production hall B7 with a gross floor area of about 24,500 m² planned for 2016 is intended to exceed the legal requirements as well. The legislator again tightened the requirements for energy-efficient construction. The annual maximum primary energy demand as per EnEV 2016 is by 25 percent lower than in the previous version EnEV 2014. Although the legal requirements already increased with the new ordinance, Hettich aims for a new construction with a primary energy demand of 46 percent below the requirements of the EnEV 2016.



BELEG **CO₂ BANK**

REVISORIN: DI. RALF SCHMIDT

1.630

Tonnen CO₂

wurden der Atmosphäre dauerhaft entzogen.

Vollkorn: B&B, Augustin
 Bauherr: in Hettich Holding GmbH & Co. oHG
 Objekt: Betriebsgebäude Hettich in der Lohje in Bünde

4 Presentation of Operative Environmental Performance

Energy generation

From March to December 2009, 24,774 kWh power was generated using the company's own photovoltaic equipment. In the following two years of full operation, feed-in quantities up to 28,958 kWh/a have been generated. This means that the target of 25 MWh per year has been significantly exceeded.

In the past year the target value has been exceeded again by generating 27,392 kWh due to the power of the sun.

From November 2011 to May 2012, the gas pipeline to CHP A5 had to be temporarily closed due to a new building. The heat generation was secured by two oil-fired boilers. When the building activities had finished in May

2012, a new gas pipeline was laid. Since then, the oil consumption amounts to zero litres again (see table 13).

For the purpose of our energy concept we continue to further expand the share of combined heat and power. In May 2015 we put the new CHP A5-2 with a performance of 550 kW_{el} in operation, in addition to the old CHP A5-1 (see table 12).

Both the compressor station and the CHP in C2 provided considerably less heat than in the previous year. Technical problems with the heat exchangers were the main reason.

Table 12: Own energy generation - 2015

Period	Energy generation [MWh]
	2015
Power photovoltaics (B1)	27
Power CHP-1 (A5)	382
Power CHP-2 (A5)	882
Power CHP (A8)	118
Power CHP (C2)	96
Total power	1,505
Heat CHP and 2 heating boilers (A5)	1
Heat 2 CHP and 2 heating boilers (A5)	5,124
Heat CHP (A8)	200
Heat CHP (C2)	86
Heating boiler (C2)	534
Heat compressor unit (B3)	2,205
Heat compressor unit (C2)	20
Total heating	8,170



Energy consumption

The absolute power consumption slightly decreased (minus 1.7 percent). The reduction in power consumption is below the decreased product tonnage. In November / December 2012, the expansions of buildings A5, A6, A8, C1 and A9 were taken into operation. As a consequence, about 7,800 m² more areas have to be provided with energy (lighting, ventilation, cooling) since 2013. As most of the new buildings resp. expansions (canteen, training centre, administration and storage place) are no production areas, the additional consumption is not compensated by an increase of the product tonnage with regard to the key figure. On the positive side, the additional heating requirements are so low due to the highly heat-insulated wood frame construction of the building expansions, that they are not visible in the overall statistics.

Proportion of renewable energies in energy consumption

Due to a change of the energy supplier the power procured consists of 30.4 percent from renewable energy sources (water and wind energy as well as other renewable energy sources such as solar and biogas). The amount of heat generated by combined heat and power including used waste heat adds up to 4,188 MWh. The amount of self-generated power is 1,505 MWh (see table 12). It is assumed that the biogas converted to natural gas still constitutes less than 1 percent of the total volume. This means that the share of renewable energies in the total consumption (gas, power and heating) amounts to 22 percent. Furthermore we use the unquantifiable waste heat of the numerous ventilation systems with heat recovery.

Table 13: Energy consumption – Comparison 2015 and previous years

	Energy consumption	
	Change compared to previous year[%]	Change compared to 2013 [%]
Power ¹⁾ [MWh]	-1.7	-6.3
Natural gas ²⁾ [MWh]	+12.5	+1.0 ³⁾
Heating oil [MWh]	0.0 ³⁾	0.0 ³⁾
Total	+3.7	-3.4

¹⁾ Obtained from public grid without own power generation CHP A8, CHP A5, CHP C2 and the photovoltaic system B1

²⁾ Gas consumption in the drawer production HPH and the CHP A8, A5 and C2 as well as the heating of the Logistics Centre and the central heating plant A5 and peak load boiler C2.

³⁾ No consumption of heating oil

4 Presentation of Operative Environmental Performance

Gas consumption

The absolute gas consumption has increased by 12.5 percent when compared to the previous year (see table 13). This is due to heating energy requirements caused by the weather.

The specific gas consumption for the two paint removal bath heating systems as well as the baking furnaces B4/B5, A8 and, since 2011, also C2 increased by approx. 0.3 percent during the same period (see figure 6).

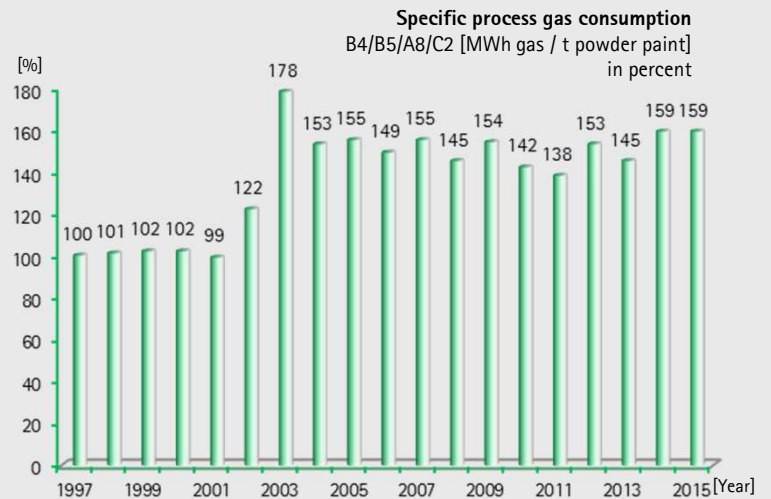
The powder coating quantity has been selected as a reference, as only a part of the products manufactured on site (drawers and slides) pass through the gas-consuming powder coating process.

Due to the optimisation of the thickness of the powder coat in the last year, the amount of powder could be reduced along with an increase in the number of pieces.

This is why the specific process gas consumption increased.

The process gas consumption has stabilized over a ten year comparison. The leap from 2002 compared to 2003 is mainly because the third baking furnace which came into operation in 2003 is heated indirectly for reasons of quality. This inevitably leads to an increase in the consumption of energy. After activation of the fourth baking furnace in 2011, there was another slight leap in 2012. However, this was mainly caused by the start of the series and the initial difficulties connected with it. This year's value even falls just below the ten year average.

Fig. 6: Comparison figures – Specific process gas consumption





Power consumption

Conflicting aspects which unfortunately cannot be reasonably quantified and offset have made it more difficult to continue to decrease power consumption (see table 5) over the last years, in such areas as:

- continually increasing use of technology (e.g. laser welding)
- sharply increasing automation (e.g. use of robots, transfer lines, ...)
- increasing number of cooling systems (buildings and machines)
- increasing number of administrative and logistical areas which initially affect the key figure in an adverse way, as they do not produce any product tonnages.
- increasing number of ventilation systems (ventilation of halls and extraction systems on machinery and plants)
- increasing office technology (computers, telecommunications, etc.)
- increasing product efficiency (i.e. optimization of product materials where, for example, the same amount of powder coating is required, but they represent less "product tonnes")
- new profiling systems

In 2015 our extensive efficiency measures have not compensated for this trend. However, without these different measures (e.g. the increase in efficiency for machinery and plant in 2015 because of TPME in the amount of 14.7 MWh/a), there would have been an even more considerable increase in power consumption. The power consumption per product tonne was particularly pushed up by the series start-up of our new products Actro and ArciTech and the new buildings and expansions in A5, A6, A8, A9 and C1.

Furthermore we have invested a lot in improving indoor climatic conditions for the employees in the past. Due to the new ventilation and extraction systems on site the power consumption caused by ventilation adds up to approx. 10 percent of the total consumption.

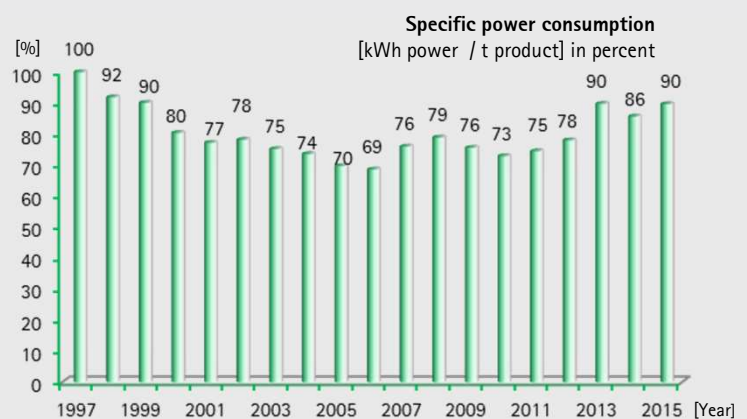
To improve the comprehensibility of the energy consumption development on site, a meter concept was planned and partly implemented in the last years. The first implementation step makes it possible to capture energy data per production area and among that even for the most important energy consumer per energy source (power, gas, water, heat, compressed air). For this purpose a wide range of sub meters was installed.

Since 2015 we are for the first time able to automatically read all electricity meters.

In the second stage of expansion plant-related meters are installed, which make it possible to measure the total energy consumption per production area. Currently different software solutions are being tested here for data collection and visual processing.

Additionally a monthly Jour Fixe with the authorised representatives has been stipulated in the last year to discuss the energy consumption data and in the case of essential changes to analyse these with the production areas.

Fig. 7: Comparison figures – Specific power consumption



Please note: The key figure has been adjusted in 2015. The whole energy consumption is considered now (purchased- and self generated power).

4 Presentation of Operative Environmental Performance

Heat consumption

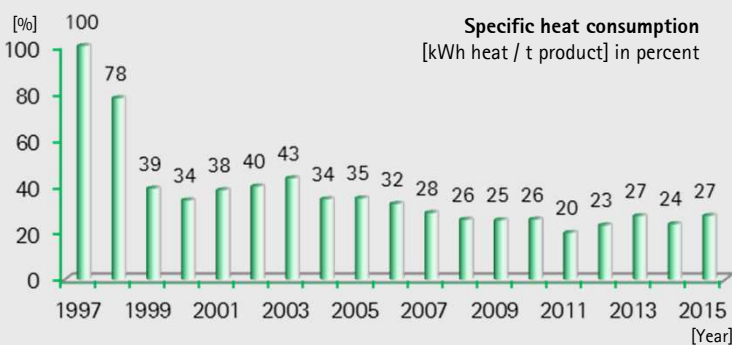
The absolute heat consumption over the last years has decreased considerably by approx. 15 percent when compared to 1997, in spite of an increase in production of 207 percent.

The excellent result can be traced back to the holistic energy concept which has begun in 1998 with the former energy contracting associated with the necessary extensive changes, plant replacements and different measures for the use of surplus heat, as well as the centralized compressor station with heat extraction. This energy concept is pursued to this day by using and expanding cogeneration of heat and power and using waste heat on ventilation systems and compressor units when possible.

The specific heat requirement increased by approx. 15 percent in the last year, largely due to the weather with more heating degree days (+ 228 heating degree days compared to 2014, equivalent to +14 percent).

From 1997 to 2015, the specific heat consumption could be reduced by approx. 73 percent.

Fig. 8: Comparison figures – Specific heat consumption



Please note: The key figure has been slightly changed in 2013 by also including further small heat generators (e. g. CHP A8 and C2) in the result.

4.5 Exhaust and noise

Exhaust emissions

None of the company's plants are subject to the licensing requirement laid down in the Federal Ambient Pollution Control Act. The gas heating of the paint removal plants and the baking furnaces B4/B5, A8 and C2 as well as the emergency district heating power station A8, the space heating boiler and the particularly energy efficient gas infrared heating of the new Logistics Centre can be cited as relevant emission sources. These fall far below the limit requirements of the first Federal Emission Control Regulation.

Apart from CO₂ emissions in power and heat generation, no other significant greenhouse gases have been emitted. The absolute CO₂ emissions have increased by 2.2 percent compared to the previous year.

Since 2013, the development of our key figures refers to the data basis published by the IEA (International Energy Agency).

By this means, we as a group of companies with international operations ensure good comparability in the frame of a harmonized reporting system. Deviations compared to previous graphics regarding figure 9 are due to formerly applied deviating national data sources. The IEA data is based on the German power plant mix. As for our calculation, our own energy generation is credited to the carbon footprint.

Table 14: CO₂ emissions through energy consumption (electricity, natural gas, local heating)

	CO ₂ Emissions	
	Change compared to previous year [%]	Change compared to 2013 [%]
CO ₂ ¹⁾ [%]	+2.2	+0.4

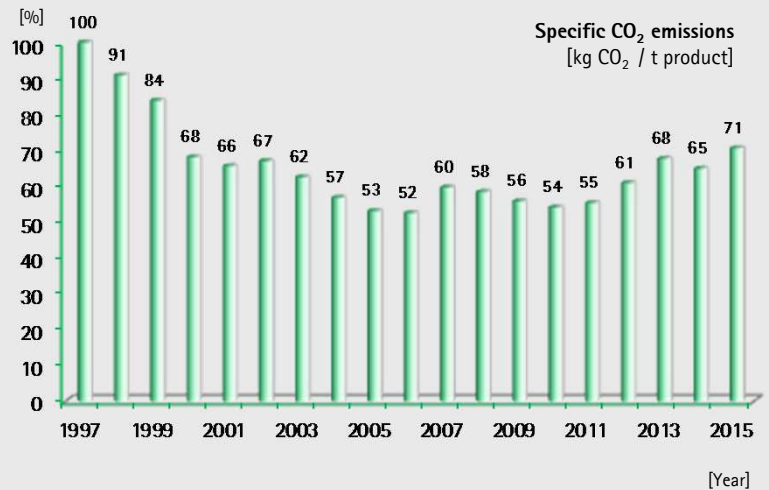
¹⁾ The CO₂ calculation was converted retroactively for the last years in 2013 according to the indications of the IEA (International Energy Agency). The energies generated via the combined heat and power or waste heat utilisation have been set off against and credited to the total emissions.



Own energy generation with cogeneration of heat and power or utilization of waste heat is clearly more efficient than energy purchased from the German power plant mix. This refers to the heating system in A5 which was taken over in 2010 and the additional CHP in A5 and C2.

This also refers to a certain extent to the photovoltaic and solar thermal energy system of B1 with the respective credit notes. Due to a decreased power and heat generation from the efficient CHP in the last year, the share of credit notes was not that large. This year, the specific CO₂ emissions are 71 percent which is the worst value since 1999 (see figure 9).

Fig. 9: Comparison figures – Specific CO₂ emissions



Direct emissions

It is our goal, when planning new plants and buying machinery, to give serious consideration to waste air and indirect energy-consumption related CO₂ emissions. If it is not possible to avoid emissions of waste air through the production process, appropriate measures will be taken to reduce them in order to keep environmental pollution as low as possible.

In addition to the permanently installed plants, other emissions come from the vehicles used on the site. These include cars that are mainly used by the field representatives as well as vehicles used for special purposes. The fleet of vehicles was increased last year by three.

The average consumption of the vehicles slightly increased to 7.16 l/100 km. The annual mileage amounted to approx. 3.1 million kilometres. This corresponds to about 80 times round the earth which we drive at the request of customers and underlines our efforts to focus even more on maintaining proximity to our customers.

The stackers mentioned have gas combustion engines and support the battery electric-operated fork lift trucks used for in-plant transportation. After the factory structure planning in plant A, only two gas-operated stackers are still operated in the outdoor area by the logistics team. The two other stackers (LPG) are used by the maintenance department.

The railway is increasingly used on business trips. After an increase of approx. 100,000 km in 2014, 60,000 km were travelled furthermore by train in the previous year.

Table 15: Vehicle fleet 2015 mileage / consumption

Vehicles	Mileage / Consumption
98 cars (diesel)	3,116,494 km/a
4 stackers (LPG)	8,102 l/a

Table 16: Average consumption vehicle fleet 2015

Period	Average consumption [l/100km]
	2015
Pkw (Diesel)	7.16

Tab. 17: Passenger transport train 2015

Period	Annual kilometres train	
	2015	Development compared to previous year [%]
Passenger kilometre	236,010	+35

4 Presentation of Operative Environmental Performance



E-mobility test

Electrical – Innovative – Hettich

As of now, e-mobility is tested on site Kirchlengern/Bünde with three new vehicles: Within a period of three years we want to examine which drive concept is the most adequate when purpose, charge time, consumption and emissions are taken into consideration.

By means of an e-car and an e-car with range extender as pool vehicles as well as a plug-in hybrid car as personal company vehicle, we collect own reliable practical experiences with various technologies and user profiles. „In the long run the question is examined if e-mobility can be, with regard to practicability, profitability as well as climatic and environmental relief, a reasonable part of our sustainability strategy“, explains Dr Andreas Hettich. Hettich thereby participates in the project „Premium“ which is supported by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. This project for the first time includes an extensive consideration of the entire user range: From the private users to users of small vehicle fleets right up to large customers, the environmental impacts of electrically operated vehicles are being explored in addition to the customer requirements. The analyses will help to gain further knowledge.

Both pool vehicles BMW i3 were designed to be fundamentally sustainable. The low-emission production of the vehicles takes place by using renewable energies such as wind and hydro power. The construction involving regrowing and recycled materials for the interior and exterior is highly resource-conserving: 95 percent of the used material can be recycled.

The personal company vehicle is a VW Golf plug-in hybrid car with both an electric drive with a range of 50 km and a conventional combustion engine. With an average consumption of 1.5 litres of fuel and 11.4 kilowatt hours of electricity, the vehicle emits only 35 gramme CO₂ per kilometre.



Indirect emissions

Indirect emissions include for example dispatch to Hettich overseas subsidiaries. The containers used for this are transported by rail, road or water to the seaport, from where the actual sea transport begins.

Even in the areas of indirect emissions it is constantly tried to improve the environmental performance. Currently, an optimization check is being carried out in the Logistics area. This will determine whether a logistics chain of > 2,000 km also can be achieved by rail, thus replacing the CO₂-intensive road transport.

In 2015, we could hereby undertake 51 cargoes via multi-modal transports and avoid a total of 82,756 kg CO₂.

Noise emissions

The company in Kirchlengern / Bünde is located in an industrial area. There are small residential areas and commercial operations in the vicinity. Measurements are carried out to maintain the limit values of the TA noise. The adherence to the legal limit values has been assessed to ensure that the impact on the residents is as low as possible. The limit values can be reliably maintained by us throughout the year.

There is a high noise pollution when the production areas are operating. These areas are appropriately identified by us. In-house noise abatement measures, such as encapsulation, have already been introduced in existing plants. Noise reduction measures will be taken into consideration when planning new plants in accordance with the EC "Noise" Directive (2003/10/EG). Furthermore personal protective equipment has been made available. Since 2008 the employees can, on request, also have personally adapted earplugs (orthoplast) made. A noise level register has been created and controls are made regularly in all areas and corresponding measures are introduced.

In 2015, with 51 loads from Bünde to Turkey and 2 loads into Norway

Hettich
avoided a total of

82,756 kgs CO₂ emissions
equal to 3,009 trees

by using multimodal transport.

Thank you! **samskip**

5 Other Factors of the Environmental Performance

4.6 Soil and ground water

No soil contamination is to be expected on the premises at Kirchlengern/Bünde because of its previous agricultural use. However precautionary soil analyses were undertaken because degreasing baths using chlorinated hydrocarbon (CKW) were used when the operation was originally started. These indicated soil contamination in the vicinity of A3. In agreement with the responsible authorities several measurements were carried out. As the results were under the limit values, a clean-up was not necessary.

To confirm these results, in the following years control samples were taken and evaluated by external testing laboratories. These investigations also confirmed that the limit values were not exceeded.

In order to prevent contamination of ground and ground water, preventive measures have been taken, e.g. acquisition of additional collecting zones. Employees working on the machines on site have also been trained to deal with water-polluting substances.

Table 18: Floor space 2015 [m²]

Period	Floor space [m ²]
	2015
Sealed area	192,697
Unsealed area	130,536
Total floor space	323,233

In 2015 no changes compared to the previous years.

5.0 Other factors of the environmental performance

Approvals

All available approvals are listed in an approval cadastre. This filterable overview includes but is not limited to approval and expiration data and collateral clauses.

Compliance with the legislation is regularly controlled by commissioned specialist functions as well as internal and external audits.

Furthermore, the status of legal compliance is reported monthly to the management within the frame of our standardised Management Monitoring System (MMS). Should, in addition to this, any statutory violation be recognized the management would be informed at once in order to take measures to restore legal conformity.

Legal norms cadastre

A legal norms cadastre lists all legal requirements currently valid within the scope of environmental protection and occupational safety on the site Kirchlengern / Bünde. An external service provider regularly gives information about all modifications in the respective laws, regulations and directives which subsequently are evaluated by us in regard to possible needs for action. The evaluated modifications in the legal requirements are then forwarded to the persons responsible for processing. The implementation is ensued by means of a tracing list

Environmental accidents

In 2015 there were no accidents with environmental pollution.

6 Company Contact Person

Further information:

For further information please visit our homepage www.hettich.com.

To get directly to the site of the environmental management you can follow this QR-Code:

For environmental
management Hettich



Addresses for enquiries

EHS Sustainability Management Hettich group of companies

EHS Sustainability Management Kirchlegern/Bünde

Technical environmental protection Kirchlegern/Bünde

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7 Name of the Authorized Environmental Advisor

At the instigation of the ESC GmbH Zertifizierungsstelle Kassel,
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Dr. Ralf Rieken (Licence no.: DE-V-0034)



Validity of the Environmental Impact Statement

The undersigned, Dr. Ralf Rieken, EMAS environmental auditor with the registration number DE-V-0034, accredited or approved for the area 25 and 28 (NACE code) confirms that he has examined whether the location or the whole organization has fulfilled all the requirements of Regulation (EC) No. 1221/2009 of the European parliament and Council dated 25 November 2009 on the voluntary participation by organizations in a community system for environmental management and environmental management and audit scheme (EMAS) as shown in the updated environmental statement for the Hettich organization, registration number DE-108-00037.

By signing this statement, it is confirmed that

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No. 1221/2009,
- the result of the verification and validation confirmed that no evidence of non-compliance with the applicable environmental regulations exists,
- the data and information of the updated environmental statement of the location provides a reliable, credible and fair view of all activities of the location within the areas specified in the environmental statement.

This statement cannot be equated with an EMAS registration. The EMAS registration can only be carried out by a competent authority under Regulation (EC) no. 1221/2009. This statement may not be used as a stand-alone basis for informing the public.

Kirchlengern / Bünde, April 21 2016

Dr. Ralf Rieken
(Licence no.: DE-V-0034)



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Technik für Möbel

