With the key environmental figures from 2022

BOS GmbH Best Of Steel

in Emsdetten

"A clear conscience and healthy figures through green action! "

The BOS GmbH company integrative management includes a quality management scheme according to DIN EN ISO 9.001:2015, an environmental management scheme according to DIN EN ISO 14.001:2015, a health and safety at work scheme according to DIN EN ISO 45.001:2018 and an energy management scheme according to DIN EN ISO 50.001:2018.
In all management systems, especially in the area of environment and energy, BOS is sustainably supported by the Jeld Wen Group.

The foundation for the implementation of the management systems was laid with the first certification for quality management in 1995.

In 2001, the first certification for the whole of the BOS company according to DIN EN ISO 14001 followed. With the introduction of the norm, the awareness and involvement for the environment was increased through intensive training. A positive side effect was and still is the continuous conservation of resources and thus a resulting reduction in energy costs.

Through the “Daily Improvement Process”, daily meetings at locations provided in all departments, a range of good ideas have been and will be implemented. Via these improvements, the energy consumption could be continuously lowered, with a simultaneous expansion of the production area.

The good work in the environmental field was continued with the registration according to EMAS II in 2006 and with EMAS III in 2009 as well as amendments to annexes I-IV of the EMAS regulation (triggered by the amendment to ISO 14.001: 2015) and in the communal sector with the achievement of the Eco-profit Award in 2008, as well as recertification in the following years. In 2013, the first certification according to DIN EN ISO 50001:2011 was received and the recertification according to DIN EN ISO 50001:2018 took place in 2019.
In addition, the assessment and validation were carried out in full compliance with the requirements of Regulation (EC) No. 1221/2009 and Regulation (EC) 2017/1505 of 28th August 2017.

The good co-operation with customers, suppliers, authorities, employees and the public helps us to continually improve our environmental proficiency.

Ralf Heck
Plant manager

Ralf Hankemann
Environment/Energy/Waste management officer

Company Portrait

BOS GmbH Best Of Steel with its approx. 490 employees, is the market leader in Germany in the field of steel frames and material containers and leading in many European countries.

BOS has been manufacturing steel and stainless steel frames for doors and windows for over 50 years and material containers and quick-build warehouses for over 40 years.

Consistent customer orientation, reliability and punctuality as well as a high level of flexibility relating to our products, technical advice and information are the foundations of our company.

As a system supplier and problem solver we place great value on a high level of quality in all areas. The customers are decisive for our success.

Every employee contributes through his performance for our customers to our mutual success and our members of staff are trained accordingly.

BOS is **THE** competent specialist for steel frames in the project market: we place a team of qualified architects, technical consultants and sales personnel at our customers' (retailers, contractors) and planners' disposal. Together we find the best standard solution or develop individual solutions. With modern technology we can fulfil unusual demands on design and function. We are happy to be of assistance finding the best installation solution or regarding special requirements in burglar resistance, sound protection or wall and ceiling connections.

Together with our customers we aim to achieve the very best in design, function and efficiency.
Listening to interested parties is a matter of course for us!

Our products in the field of steel frames:

- One, two and three part frames
- With top-light, with side part, as an element
- Sliding door frames, double acting door frames, window frames
- In stainless or galvanized steel, 1.5 or 2.0mm
- Primed or powder coated in all RAL colours
- In a virtually unlimited variety of designs, even in small amounts
- Design frames
- Fire protection glazing (according to German certification F30/G30/F90)
- Special programmes for renovation, hotels, healthcare and barrier-free building

Our products in the field of material storage:

- Material containers
- Quick-build warehouses
- Factory equipment
- Housing

TÜV NORD DIN EN ISO 9001 — Quality
TÜV NORD DIN EN ISO 14001 — Environment
TÜV NORD DIN ISO 45001 — Safety
TÜV NORD DIN EN ISO 50001 — Energy

EMAS Certified Eco-Management DE-156-00086

ÖKOPROFIT Kreis Steinfurt
BOS GmbH Best of Steel
ÖKOPROFIT-BETRIEB
Kreis Steinfurt 2022

BOS uses an "Integrative QS Management System", as only certified quality prevails. Permanent monitoring and continuous improvement processes are the cornerstones of the BOS quality.

Company History

1967	Founded by Bernhard Ohmen. The first products were stairs, banisters, and steel frames
1980	Production of containers began
1991	Takeover of the company by Polynorm NV, Bunschoten, Netherlands
1995	Production of quick-build warehouses began
1999	BOS OHMEN GmbH became BOS GmbH
2002	Takeover of the company by the Domoferm Group, Gänserndorf, Austria
2012	Takeover of the Domoferm Group by Austro Holding, Vienna, Austria
2018	Takeover of the Domoferm Group by the JELD-WEN Group

How it all started: the first steel frame delivery lorries from Metal works Ohmen.
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Unternehmenskennzahlen

Jahresumsatz	:	ca. 66 Mio. €
Beschäftigte	:	ca. 490 Mitarbeiter
Stahlverbrauch	:	ca. 13.500 Tonnen pro Jahr

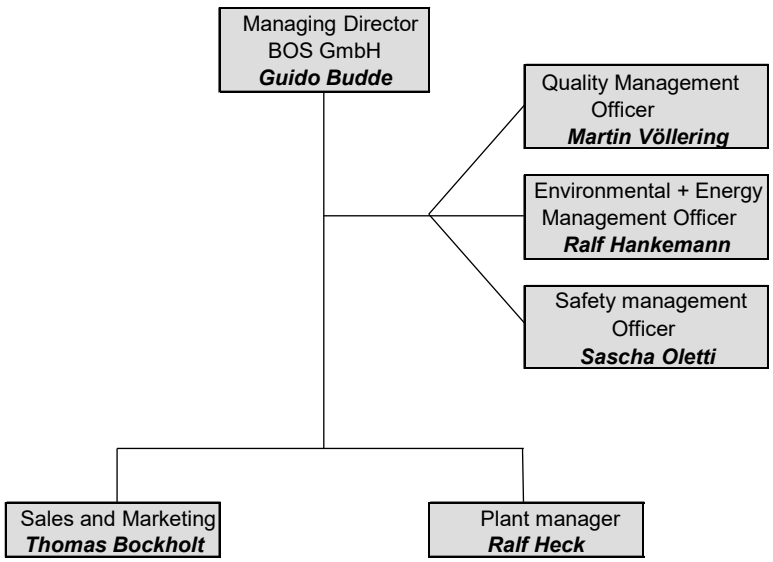
This is us

BOS GmbH is the clear market leader in steel frames and material storage. Production takes place in a three-shift operation and delivery of the products takes place using the company‘s own transport fleet, complemented with forwarding agents. Approximately 100 employees work in administration, in the areas of sales, development, offers, engineering, dispatch, customer and architect support as well as those of quality, environment, energy and health and safety management.

The location Emsdetten lies between Münster and Rheine in north Münsterland. Emsdetten has a population of approx. 36,000, a good infrastructure and well settled industrial areas with diverse industrial sectors. The surrounding motorway connections to the A30, A31, A1 and A2 as well as the short distance to the airport Münster/Osnabrück are additional logistic advantages of the location.

The factory itself is situated in a mixed residential and industrial estate in the district Sinningen, to the east of Emsdetten. The business premises cover a total of 30,000m², of which 20,000m² are roofed over administration, production and storage space.

Organigramm der BOS GmbH



Frames

The raw material for our products is galvanized steel sheet or stainless steel and it is delivered as coils, slit strips or in ready cut plates, completely free of fats and oils. With modern cutting equipment, the material is cut to the required sizes.

The frame profiles are formed using various forming techniques and then cut to suitable lengths and the mitres are sawn or shorn. Afterwards, the necessary cut outs for the later housing of fittings are made and the fastening elements for on site fixing are spot welded.

Once the accessory parts have been welded on, the individual profiles enter the final assembly. Here they are welded together at the mitres and in the soffits using different methods.

At the lower area, the side parts of the frame are screwed together using transport profiles, which serve to keep the frame in form and as a transport support.

Finally, the galvanized frames are coated with a water-based primer, using either an immersion bath or spray technique, depending on their size. As an option the frames can also be powder coated in all RAL or non-standard colours. Once the primer and powder coating have been baked on in the drying ovens and cooled, the frames are ready for packaging.

The products from the steel frame sector are subject to the regulations and external monitoring of the Materials Inspection Office in NRW (Materialprüfungsamt NRW) and those of IFT Rosenheim.

Material Storage

As the market leader, BOS Best Of Steel is continually working on improving solid material storage. It can quickly be put into use and can be extended at any time because of the modular construction. A storage solution with sturdy all-round protection and an outstanding cost-benefit ratio. Our claim: we always offer the simplest and most suitable solution for all sorts of different applications.

The BOS Quick-Build Container is at home everywhere where storage space is needed in a short space of time: extremely quickly assembled, robust and available in many different sizes. The classic in the sector of mobile storage rooms.

For larger storage requirements we have developed the BOS Quick-Build-Warehouse – a solid and complete solution, no foundation required and easy to construct.

Certified products provide trust and safety

All this in proven BOS quality with TÜV certified safety and with the advantages that only the robust material steel can offer.

Proven Best-Point-Technology – the material surface remains undamaged

At BOS only galvanized thin sheet steel is used, Building components are joined together using the unique Best-Point technology.

In contrast to conventional production methods, the protective zinc coating is not damaged.

BOS gives a corrosion protection guarantee on these Best-Point joins for 10 years!

Material container

Gas cylinder container

MobileBox

The environmental policy of BOS GmbH

The environmental policy of the BOS company is based on the social and territorial responsibility.

In the whole social sector, the management and all employees are committed to continuously working on improving existing regulations in all matters of environmental protection and to improving environmental performance. The environmental protection paragraphs specified in the IM handbook fulfil the requirements of DIN EN ISO 14001 and the environmental laws and regulations.

The management and all employees commit themselves to carrying out their activities and decisions according to the explanations given in the IM handbook as well as the existing legal requirements, in order to be certain that the environmental protection within the company is consistently upheld.

The aim of the environmental policy within the company BOS is to protect the environment as a whole and to avoid pollution.

The management sees the focus of the environmental principles in:

- reduction of consumption/resources
- reduction of waste materials
- promotion of awareness-raising among employees

In the territorial field, the target is to reduce environmental pollution for example noise, or not to exceed the customary standards unless in exceptional cases.

The management has named the officer for environmental protection. This person is, in agreement with the Quality Management Officer, responsible for planning, monitoring, alignment and correction of the environmental policy. He is authorized to identify environmental problems, suggest suitable measures and monitor the implementation of such. The management is to be informed of any significant deviations in the environmental policy.

An evaluation of the environmental policy by the management is given via the appraisal of internal audits and the initiation of measures resulting from them. Should the annual environmental company audit yield any new findings, these will be included, when necessary, in the new environmental policy.

The energy policy of BOS GmbH

The energy policy of the management is strongly influenced by the company policy, which also emphasizes the energy aspect.

The economical use of energy resources is of high priority and therefore it is an important objective to continuously improve energy efficiency in order to reduce energy consumption on a long-term basis. To implement these goals, an energy management system has been introduced, the scope of which covers the entire organization of BOS Best Of Steel and is also continuously adapted and improved.

It is important to us to consider the energy-efficient purchasing of products and services.
We also take responsibility in the area of reducing energy-related greenhouse gas emissions and would like to rely on the use of renewable energy sources wherever possible.

The provision of all necessary resources and information for the implementation of these objectives as well as the involvement of all employees are important steps.

Compliance with energy legislation and regular information about new developments form the basis for a modern and legally compliant energy policy. We are committed to complying with all requirements of laws, standards and other energy legislation.

Furthermore, energy consumption is continuously monitored and evaluated on a quarterly basis in order to avoid unnecessary costs and to be able to derive activities for improving energy efficiency, as well as to continuously improve ourselves.

The energy baseline has been reset after 8 years to that of 2020, as new KPI's have been formed and separate recording

The Environmental/Energy Management System

The task of the Environmental/Energy Management System is the continual improvement of the environmental performance of BOS GmbH.
The areas of the risk-based approach as well as those of the interested parties and circles have been integrated and are part of this environmental statement. Separate documents for risk assessment and evaluation have been introduced. wurden gesonderte Dokumente zur Risikobewertung u. -abschätzung eingeführt.
The following instruments are used for the implementation of the tasks assigned to us:

Areas of Responsibility

The management is responsible for the BOS GmbH environmental management system. The environmental aims are given on hand from target agreements made with the management. The system is to be upheld and all environmental activities coordinated through the environmental management officer or his representative, whereby all environmental laws and legal guidelines are to be met or where possible, their requirements undershot.

Communication

All employees will be regularly informed about environmental issues via notices, intranet and training events. Employees actively take part in the daily improvement scheme with environmentally relevant improvement suggestions, participate in environmental projects and are involved in environmental issues.
Customers, suppliers, authorities, business partners and the public all receive an insight into the environmental activities of BOS GmbH through press releases, tours, audits, training and environmental statements. There are longstanding contacts with universities of applied sciences and the Chamber of Industry and Commerce.

Integrative Management Handbook

Processes relevant to the environment are described in clear detail in our IM handbook.
The contents are continually reviewed and adapted to the respective requirements.
Procedural instructions and key figures are available to every employee as applicable documents.
Emergency plans and procedures in case of accidents which affect the environment are described.
The updating of the instructions and the legal provisions are undertaken by the environmental officer or his representative.

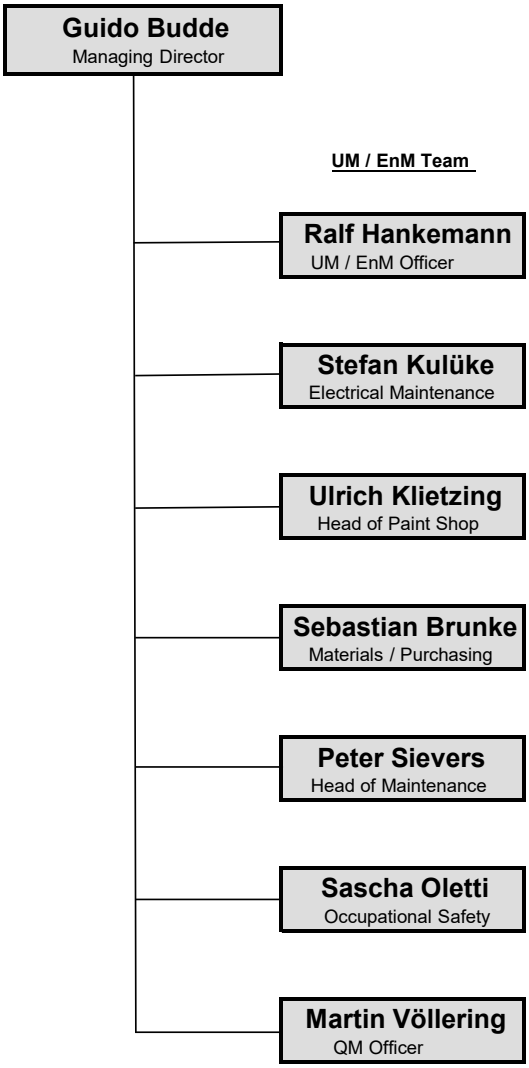
Energy/Environment team

An environmental team, that was set up in 2000, has the task of supervising the middle and long-term environmental projects and monitoring the degree of fulfilment the measures introduced reach. Further responsibilities include the definition and establishment of environmental key figures.
The introduction of DIN EN ISO 50.001 took place in 2013, in which context an environmental and energy team consisting of the same persons was formed.
Members of the above-mentioned team are managers, whose departments have both active and passive influence on the areas of energy and environment, as well as a quality officer and an occupational safety specialist.

Evaluation of the System

Internal audits are conducted annually in all departments by a team of trained and certified auditors. Weekly inspections of environmentally relevant changes are carried out and documented by the environmental officer both indoors and outside. The annual audits of the Environmental and Energy Management System by external auditors ensure that the legal requirements and those of DIN EN ISO 14.001 and EMAS are reviewed and upheld.
The legal register is updated by an external service provider.
Environmental and energy consumption key figures make the performance in environmental protection clear. A six-monthly evaluation of the environmental targets and programmes by the management creates the basis for identifying improvements in the environmental and energy management schemes and adapting them to the respective requirements.

Organigram Environment / Energy Management Team



The Env / EM team meets at least every six-months in order to be able to react and counteract deviations in the environmental / energy sector in time

The team members are allowed to initiate measures to minimize energy consumption and the impact on the environment.

Above is the organigram of the environmental and energy management team. It is made up of various departments which guarantees a good coverage of all important and relevant environmental and energy areas.

The past "corona years" 2020 until the end of 2022

The last years were difficult years for us, which were characterised by many uncertainties. Therefore, a few words should be said about them at this point.

From the shortage and sometimes lack of raw material supplies to the issue of mobile working (home office), the internal representative regulations, the constantly changing Corona protection requirements, through to the travel bans and the ban on receiving visitors. In addition, there were hardly any face-to-face meetings, but video conferences, distance rules to be observed, the constant wearing of respirator masks, etc., which made daily work very difficult.

The so-called "corona crisis" has also had and continues to have a variety of effects on "everyday life" and overall consumption at BOS.
Be it the changed behaviour of coming to work due to mobile working, the changed energy consumption due to home office, the toilet and washing procedures that take place at home, etc.,

Therefore, all consumption figures, key figures, etc., should be viewed with caution.
However, it is not possible to deduct a flat percentage from the consumption (e.g., from colleagues working from home), as office lighting and heating, for example, were fully "switched on" despite a reduction in staffing.
Because of this, comparisons with previous years are only possible to a limited extent.

A planned office extension, as well as further internal renovations, have become obsolete due to the current pandemic or have been postponed until further notice.

The situation eased in regard to the pandemic and the resulting measures during the course of 2022. However, it is possible that the situation could arise again at any given time.

Sustainability of our products

The sustainability of our products is of great importance to our company, as we equip many building projects - which are constructed according to these criteria - with our frames.

We have therefore had our frames tested, for example, according to DGNB and LEED **criteria**, as they are subsequently part of the building or urban district and are also **assessed** as part of a sustainability evaluation.

In order for the buildings to be evaluated to meet or correspond to the subsequent system evaluation, the individual components to be installed should fulfil the corresponding sustainability criteria, which we have also proven for our frames through various manufacturer's declarations.

The containers and warehouses we produce have a long service life and, with the exception of the OSB wooden floors, are also fully recyclable and therefore very sustainable.

The environmental aspects of BOS GmbH

Our environmental team determines and evaluates our environmental aspects as soon as there are new aspects or changes to existing aspects. This is then reported in table form in the following year (see below). A consideration of the environmental aspects in regard to points such as hazardous substances, resources, waste, products/processes/procedures, employees, customers, suppliers and products is given in a separate section in the "Determination and Evaluation of Environmental Aspects 2022 “.

The criteria for the identification of significant environmental impacts are as follows:

- Environmental aspect is directly perceived outside the company premises
- Greater environmentally relevant risk from the plant in question
- Environmental obligations or requirements are not or not fully complied with
- Environmental aspect can be perceptible or measurable in the product
- A significant external environmental aspect has an impact on our company

Even one fulfilled criterion leads to the classification "significant“.

In this assessment all recognized environmental aspects were taken into account. In the results, the following aspects were assessed as significant:

- Consumption of water endangering substances
- Energy consumption
- Air emissions
- Non-hazardous waste
- Noise within the factory
- Noise outside the factory
- Raising employees‘ awareness in regard to environmental pollution
- Environmental compatibility of products

The non-hazardous wastes (although classified as significant) are quantitatively within a "normal framework" as assessed by us. Also, any possible occurring odours are extremely rare and then in such a small extent that no further examination took place.

We have also launched additional measures, such as hanging up nesting boxesand planting tree seeds. Such measures will of course be continued in the future.

Our direct environmental aspects (Standard operating conditions, Table 1)

Number	Environmental aspect	Significant	Insignificant	Comments
AN 1	Packaging material consumption		X	Small amounts, return system present
AN 2	Copy paper consumption		X	BOS changeover to DMS (ELO)
AN 3	Drinking water consumption		X	Consumption very low and constant
AN 4	Well water consumption		X	Removal for cooling purposes
AN 5	Waste water pollution		X	No polluted waste water from production
AN 6	Water endangering material consumption	X		Primer, solvents
AN 7	Overall energy consumption/losses	X		Heating of production hall via machine heat emissions; roof refurbishment of production hall complete
AN 8	Emissions to air from gas, solvents and vehicles	X		Less gas consumption due to lower oven temp,, less solvent due to different primer, less diesel due to current technology
AN 9	Hazardous waste		X	No large quantities, proper and safe storage
AN 10	Non-hazardous waste	X		Colour separation (waste bins) and quantity recording; further checks by the people emptying the bins
AN 11	Noise inside BOS – sheet processing	X		Production is the noise area; measures are being implemented
AN 12	Noise outside of BOS	X		Due to some noise complaints in the past in the neighbourhood, this aspect has become significant

AN = Standard aspect

Our direct environmental aspects (Special operating conditions, Table 2)

Number	Environmental aspect	Significant	Insignificant	Comments
AB 1	Storage and handling with water endangering material		X	Storage conforms to applicable regulations
AB 2	Storage of hazardous materials		X	Storage only in small amounts and decentralised
AB 3	Hazardous materials depot (leakage)		X	Hazardous materials depot in order
AB 4	Risk from external companies		X	Every external company receives instructions (Form available)
AB 5	Fire loads		X	Fire loads only present to a small extent

AB = Special aspect

Our indirect environmental aspects (Table 3)

Number	Environmental aspect	Significant	Insignificant	Comments
AI 1	Disregard for official (environmental) requirements and legal regulations		X	Exhaust air system approved with small constraints, Compliance with obligations of 31. BImSchV
AI 2	Transport of raw materials and finished products within the company		X	Cramped conditions, transport by gas forklift
AI 3	Transport of raw materials and finished products outside the company	X		Transport of raw materials by lorry
AI 4	Increase of truck loading rate on return journeys		X	Increase of own CO_2 emissions and reduction of external CO_2 emissions
AI 5	Information regarding employee awareness for environmental pollution/energy consumption	X		Awareness talks, training, daily improvement process
AI 6	Proper and appropriate disposal of products		X	Is ensured
AI 7	Procurement of raw materials (coils)		X	Purchasing only by specification (defined within the procurement process)
AI 8	Environmental compatibility of product	X		Focus on Quality Management process

AI = Indirect aspect

By direct environmental aspects we mean the operating conditions we deal with directly on a daily basis during our operations, while the indirect environmental aspects are related to associated activities - such as transport, procurement and behaviour.

Environmental Impacts

An environmental impact is any change in the environment, whether favourable or unfavourable, which is fully or partially the result of an activity, product or service of an organisation

The use of raw materials, consumables and fuel in connection with the production process underlie the strict criteria and requirements of the environmental and health and safety management. The requirements for the raw materials to be supplied are clearly regulated and retained in framework contracts according to purchase quantity.

The aim is to keep the effects on the environment as small as possible. For this purpose, raw materials are used which have absolutely no fat or oil content. These raw materials are specifically produced according to our specifications.

A water-based primer is the bonding agent as provision for the final coating by the client and serves as corrosion protection for our materials. The ratio of solvent-containing paint used lies by a max, of 2.8% VOC.

The galvanized steel sheet used by BOS as well as the primer and powder coating are free from pigments and siccatives based on lead, cadmium and chrome VI compounds.

The packaging from our products can be collected throughout Germany and sorted and disposed of by an approved waste management service provider on customer request.

The sealing material used can be 100% recycled and re-entered into the raw material circuit. This is of particular advantage regarding old stock or leftovers.

The auxiliary and operating materials used for the production processes are subject to an incoming and suitability test on the basis of the safety data sheets before they are accepted into the inventory. These are checked by the specialist for occupational safety and the environmental management officer for hazards to people and the environment before a release is granted. Individual products are subjected to a substitution test, depending on the hazard.

The vehicles for in-house traffic run on electricity or gas. The vehicle fleet is replaced at regular intervals by new state of the art vehicles.

Long-term cooperation with suppliers contributes to innovative further developments and solutions to environmentally relevant issues.

The possible effects on the environment are kept as low as possible by the sum of these measures.

Product-related sustainability

In the product sector Frames, we have a higher sustainability than our competitor product wooden frames,as our steel frames can be 100% recycled. Thanks to the hot-dip galvanizing, we have an enormously long service life and furthermore, no rust to shorten the service life.

In the product sector Containers, the entire product - apart from the wooden floor - can also be 100% recycled. Due to the extremely easy assembly and disassembly, our containers are also very popular, which rules out the need to opt for other products or a second product.

Consideration of the life cycle of frames and containers / warehouses

When considering the life cycle (cradle to grave) of our **frames**, it is to be said that they have a very long service life with virtually no wear and tear.

During the lifetime of a steel frame, painting may be necessary, whereby powder coated frames are maintenance-free.
With stainless steel frames, only regular cleaning is required, especially in swimming and sauna facilities.

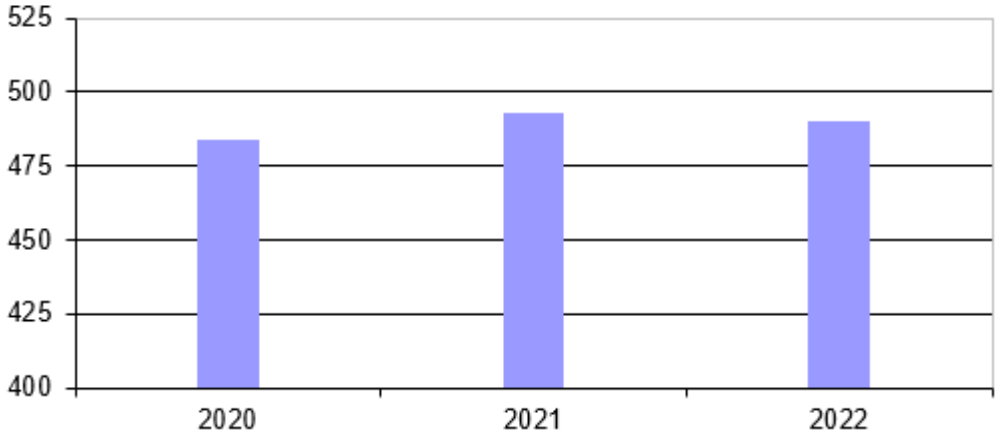
The recycling of all types of steel frames is given to 100%, as all types of steel can be melted down and thus reused.
The painted and powder-coated frames can likewise be recycled, as the coating materials are free of heavy metals and REACH products and are incinerated during the melting process.

When considering the life cycle (cradle to grave) of our **containers**, **warehouses** and **factory equipment**, it can be said that these have a very long service life with virtually no wear and tear too.

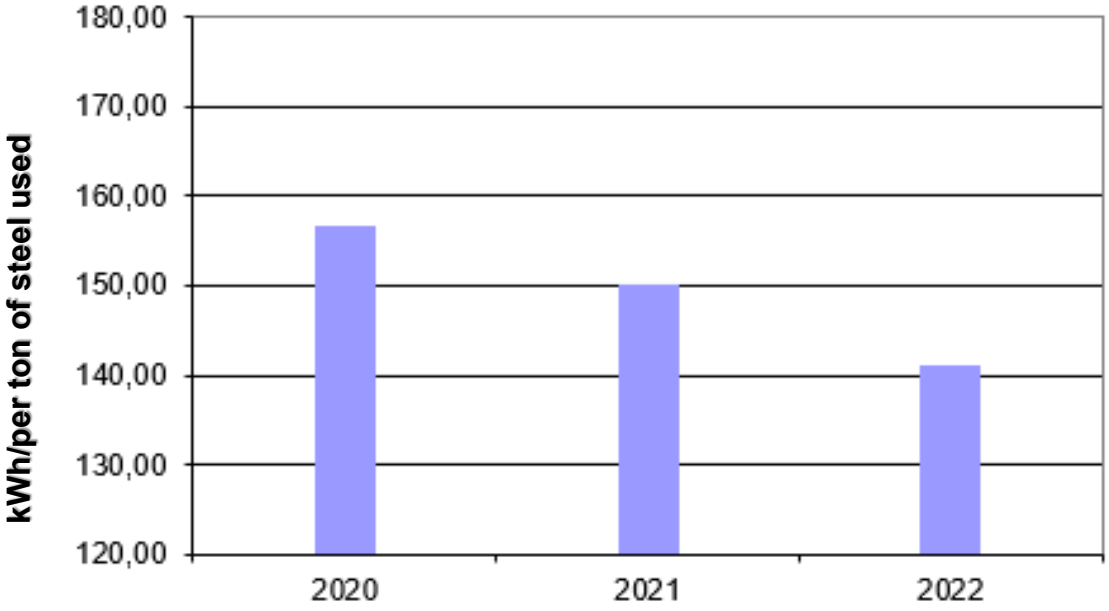
During the life cycle of the containers, warehouses and factory equipment, painting may be necessary, otherwise these products are also maintenance-free. The recycling of the containers, warehouses and factory equipment is also 100%, except for the OSB wooden floorboards, as all products can be melted down.

The painted containers, warehouses and factory equipment can also be recycled, as the coating materials are also free of heavy metals and REACH products. Just as with the steel frames, the applied paint on the containers, warehouses and tool safety boxes is incinerated during the melting down process.

Total no. of employees



Lorry diesel consumption



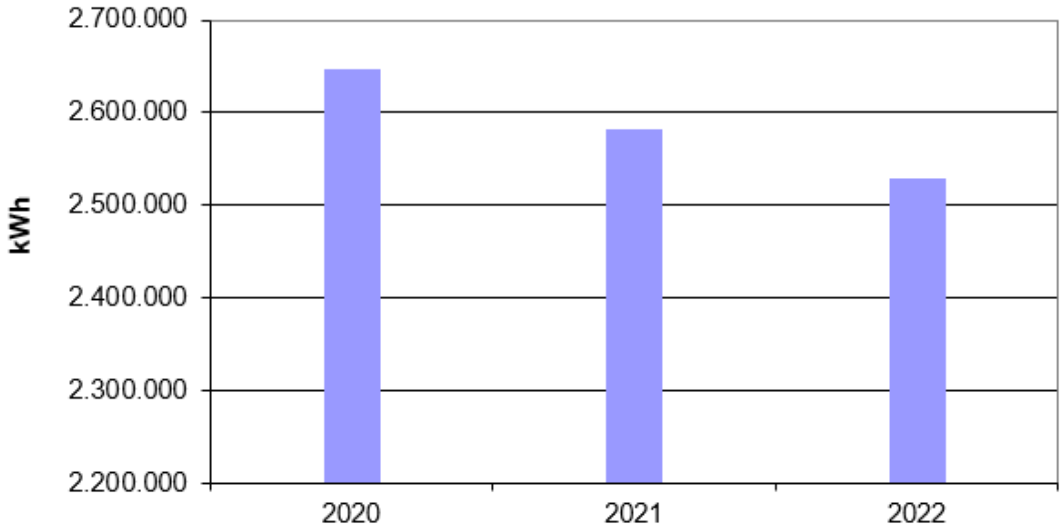
To the employee and diesel key figures

The number of employees has remained relatively constant in recent years, despite further increases in turnover.

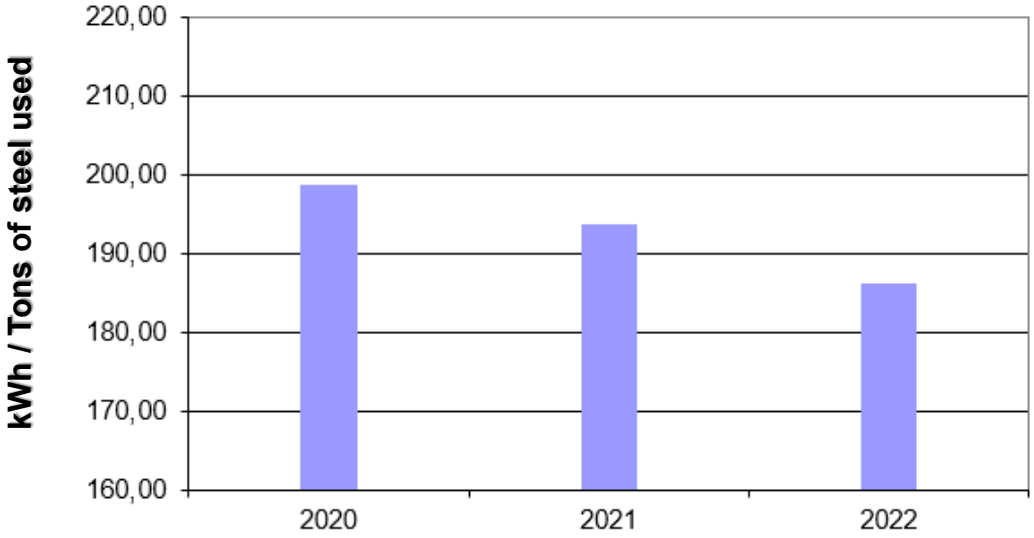
The key figure for “diesel consumption” (kWh/per ton of steel used) has fallen steadily in recent years. It could be constantly lowered through driver training, an air pressure control system for tyres, a route optimised software and the use of new vehicles.

It should be mentioned at this point that all our lorries are fuelled with AdBlue and therefore equipped with the best available technology, so that we are doing our utmost in this area to reduce NOx emissions as much as possible.

Total electricity consumption



Electricity consumption



Zu den Stromkennzahlen

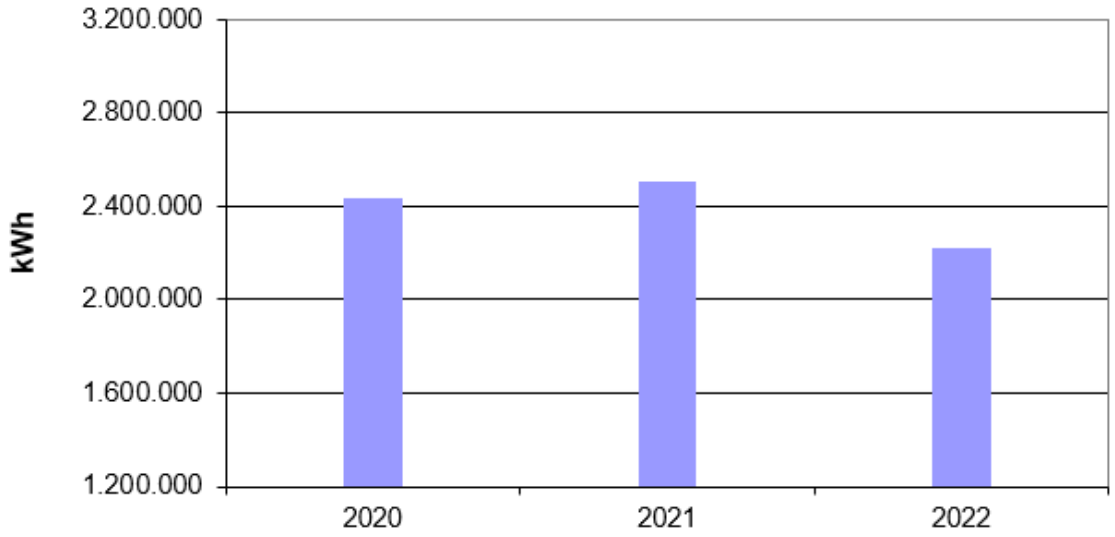
The key figure for total electricity consumption fell by 2.1 % in 2022 compared to the previous year, as internal efforts of implemented projects contributed to an increase in effectiveness.

The newly formed key figure for total electricity consumption in "kWh per tonne of steel used" has also fallen by 3,9% compared to 2021, as an additional project has improved scrap and waste optimisation.

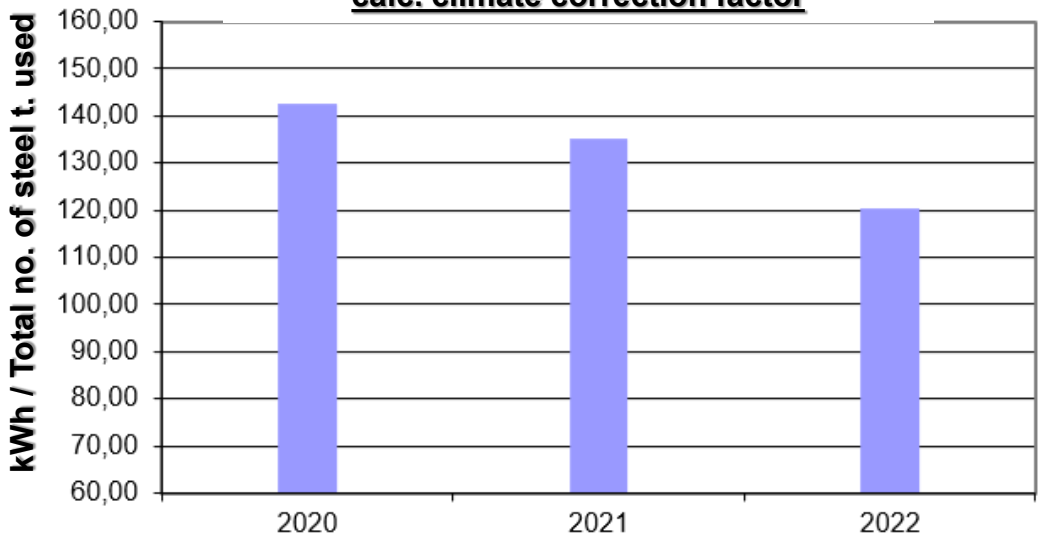
The total electricity consumption values per tonne of steel used (and also the individual values for the frame and storage technology) were recalculated in 2022, as these key figures best reflect the specific consumption.

Here, both the total current and the individual current value for the storage technology have fallen, as the pressure joining system, among other things, has been given frequency control and the number of units of storage technology has also declined..

Total gas consumption



Gas consumption without (heating with calc. climate correction factor



To the gas key figures

The key figure for total gas consumption fell by 11.4 % in 2022, despite increased production volumes in frame technology..

Specific gas consumption without heating (kWh / per input t. of steel) fell by 8 %.

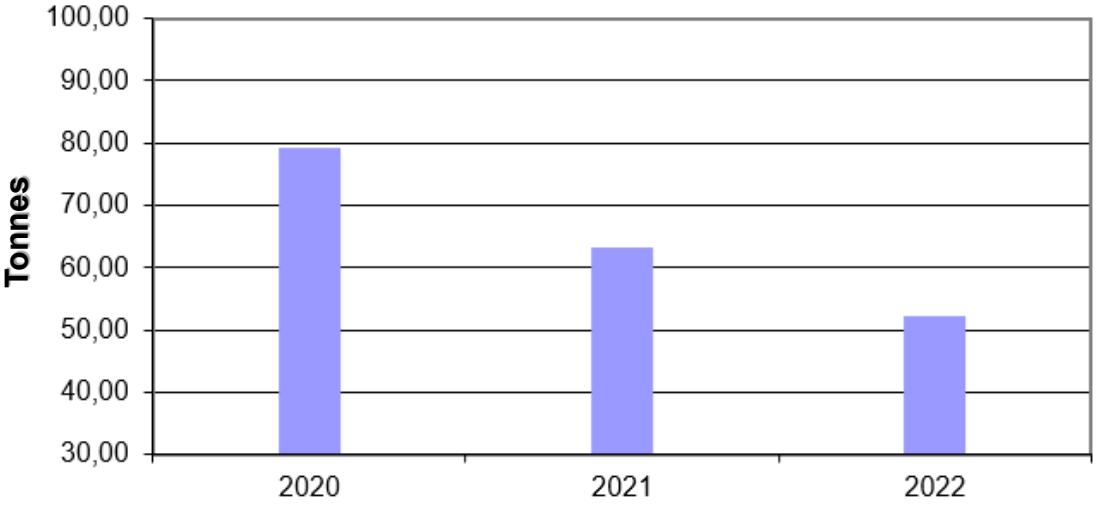
Consumption for heating (with climate correction factors factor) fell by approx. 116,940 kWh (corresponds to a percentage reduction in heating of 16.6 %).

In order to achieve a further reduction in gas consumption, savings measures will continue to be examined in 2023 (temperature reductions in the ovens, condensing boiler technology management), as well as measures for charging the ovens (oven door opening times, diagram of specific powder oven consumption for the paint shop).

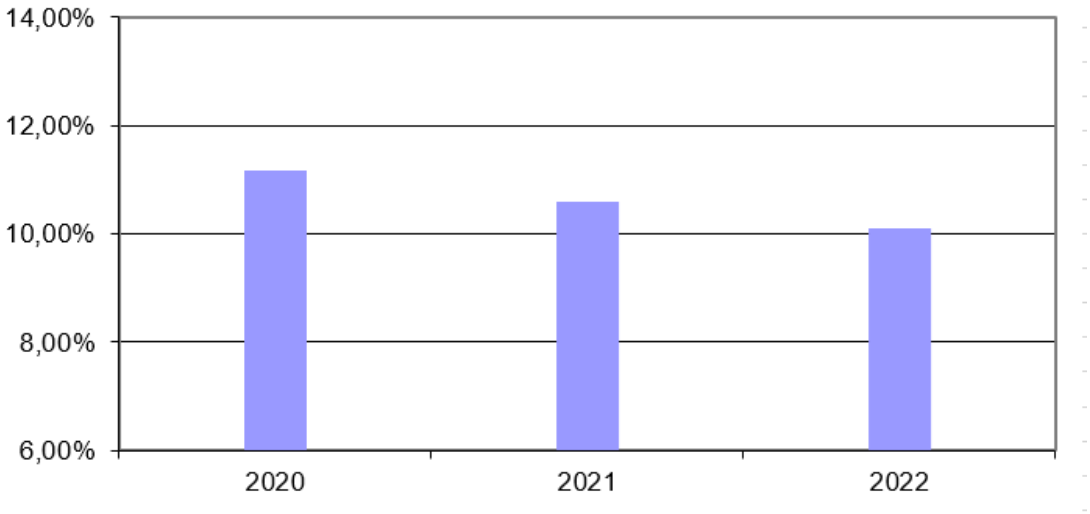
The reasons for the above-mentioned reduction in consumption include the following changes:

- Reduction in hall temperature from January 2022
- Improved capacity utilisation of the powder oven
- Lower quantities in the powder oven
- Lower quantities for the manual spray conveyor
- More frequent switching off of the manual spray conveyor oven
- Lower number of pieces for the storage technology oven

Total residue waste



Scrap (offcut and reject)



To the residual waste and scrap key figures

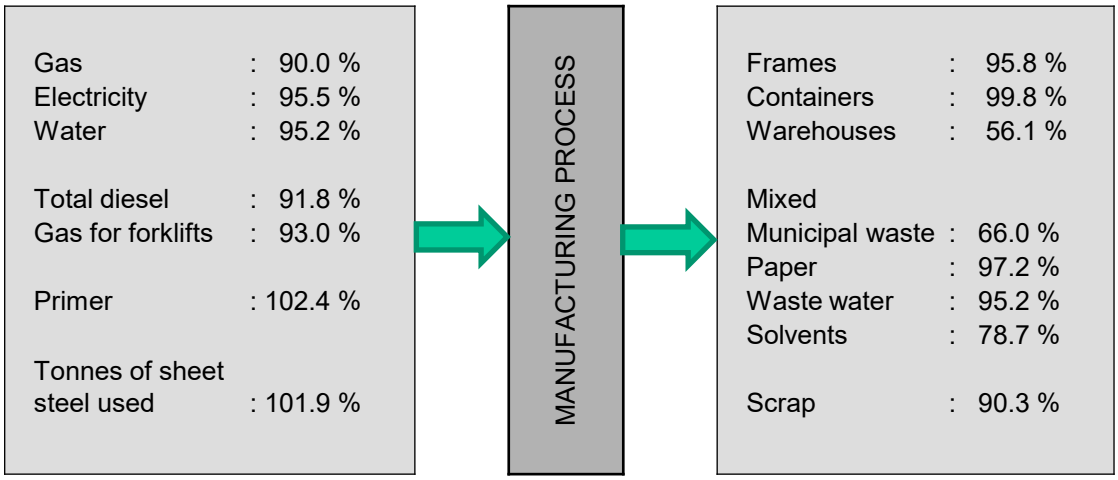
In the years 2014 to 2019, we have had a fluctuation of over 19 tonnes in the annual amount of residual waste (mixed municipal waste), due to disposals made in irregular intervals via the residual waste, e.g., during internal relocations, clean-up campaigns, etc.
Due to the costs and space conditions, separate collection is not expedient here, hence the disposal via the residual waste. Such incalculable factors are therefore not planned for in the target setting for the coming years.

Compared to the previous year, the total amount of residual waste in 2022 decreased by approx. 10.7 tons (-17%).
The planned target for the "residual waste volume per employee" for 2022 was a saving of 2% compared to the previous year. However, there has been a decrease of 16.5% here, as there have been no other significant disposals via the residual waste.

A separation of compostable waste is currently not viable, as a daily emptying of the waste containers (required at least in summer) is logistically and in terms of time not possible.

Despite a high share of complex steel frames and an unfavourable product mix, the scrap share (offcut and reject) fell by 0.51 % compared to the previous year. This trend is to be reduced even further by increasing the inspection frequency.

Input – Output Betrachtung 2022



For all values, the tonnage and quantities were linked to an index number, The values from 2020 were equated with the value 100%.

The Core Indicators

Type	Unit	2020	2021	2022	Comparison 2021-2022
Total gas and electricity consumption	kWh	5,078,303	5,085,977	4,747,225	-6.7%
Gas energy consumption		2,430,682	2,503,948	2,219,076	-11.4%
Energy consumption – renewable 36%		953,143	929,530	910,134	-2.1%
Electricity consumption – renewable 36%		1,694,477	1,652,499	1,618,015	-2.1%
Electricity consumption – other 64%					
Diesel	kWh	2,085,298	2,001,203	1,914,206	-4.3%
Annual total consumption					
Materials	%	88.82	89.41	89.91	0.5%
Sheet steel use (scrap + reject)	Litre	92,488	88,668	94,041	6.1%
Primer					
Water	m^3	1,900	1,982	1,808	-8.8%
Annual total consumption					
Waste	t	130.7	124.1	100.1	-19.3%
Total waste	t	2.06	2.79	3.00	7.5%
Hazardous waste					
Area ratios	m^2	20,250	20,250	20,250	0.0%
Area consumption – covered area	m^2	4,780	4,780	4,780	0.0%
Area consumption – paved area	m^2	1,476	1,476	1,476	0.0%
Green area	m^2	3,694	3,694	3,694	0.0%
Near-natural areas	m^2	30,200	30,200	30,200	0.0%
Total area					
Emissions	t	2,811.7	2,769.4	2,636.6	-4.8%
CO_2 **	t	0.675	0.659	0.642	-2.6%
SO_2 ***	t	1.510	1.495	1.417	-5.2%
No_x ***	t	0.102	0.101	0.097	-4.0%

Emissions from N_2O, CH_4, hydrofluorocarbon, perfluorocarbon and SF_6 are either not present, or they constitute only a minimal part of the emissions.

** from electricity, gas, propane gas and diesel consumption

*** from electricity and natural gas consumption

* These values were linked to an index number. The values from 2020 were equated with the value 100%.

Core Indicator Ratios

Type	Unit	2020	2021	2022	Comparison 2021-2022
Energy efficiency					
Gas consumption without heating per t. steel used	kWh / steel t. used*	151.58	140.84	129.52	-8.0%
Electricity consumption per t. steel used	kWh / steel t. used*	198.79	193.81	186.30	-3.9%
Diesel consumption – per t. steel used	Litre / steel t. used	156.57	150.21	141.06	-6.1%
Material efficiency					
Primer per t. steel used	Litre / steel t. used*	9.42	9.58	9.65	0.7%
Water					
Annual consumption per employee	m^3 / employee	3.93	4.02	3.69	-8.2%
Waste					
Total waste per t. steel used	kg / steel t. used*	9.813	9.315	7.378	-20.8%
Hazardous waste per t. steel used	kg / steel t. used*	0.155	0.209	0.221	5.7%
Emissions					
CO_2**	kg / steel t. used*	211.11	207.87	194.29	-6.5%
SO_2***	kg / steel t. used*	0.0506	0.0495	0.0473	-4.4%
No_x***	kg / steel t. used*	0.1133	0.1122	0.1044	-7.0%
Suspended dusts*** (PM)	kg / steel t. used*	0.0077	0.0076	0.0071	-6.6%

* Steel t. used = used tonne of steel

** from electricity, gas, propane gas and diesel consumption

*** from electricity and natural gas consumption

Abfallbilanz 2022

Waste description	AVV- No.	Unit	2022
mixed municipal waste	200301	t	52.4
powder coating waste	080112	t	7.8
file shredding	200101	t	1.68
empty containers SWB	200301	t	0.5
operating materials containing oil	150202	t	0.21
aerosols	150110	t	0.25
paper, cardboard, cartons	150101	t	23.3
mixed foils	150102	t	4.58
Packaging with harmful adhesives	150110	t	0.17
drilling emulsion	120109	t	0.97
Solvents	140603	t	0.081
Paint and varnish sludge	080113	t	1.52
wood waste A2 - A3	170201	t	6.6
textile waste	200111	t	0.1

Stated in bold type = Hazardous waste

To the primer key figures

Primer consumption increased by 6.1% in absolute terms, but only by 0.7% in relative terms (litres / tonnes of steel ZT) in 2022 compared to the previous year, as we made the primer slightly thicker.

To the waste balance and core indicators

The total volume of waste fell by approx. 24 tonnes (- 19.3 %) as less residual waste and waste wood was generated.

Hazardous waste (see page 22) increased by approx. 0.2 tonnes (7.5%) as more paint and varnish sludge and more drilling emulsion were disposed of in 2022.

The newly calculated key figure for total electricity consumption in "kWh per tonne of steel used" fell by 3.9% compared to 2022, as it was possible to further improve the optimisation of scrap and offcuts.

EMAS III

On the 22 December 2009, the amended EMAS Regulation (EMAS III) was published in the Official Journal of the European Union and came into effect on the 11 January 2010. This replaced the old EMAS II Regulation.
The Regulations 2017/1505 from 28.08.2017 (amendments to Annexes I – III) and 2018/2026 from19.12.2018 (amendment to Annex IV) have also been taken into account.
The main changes relevant for BOS are related to the core indicators and other already existing relevant indicators for environmental performance, which have to be publicized in the environmental statement.

Allgemeines

In 2022 BOS successfully took part for the ninth time in the "Eco-profit recertified company" award.

The “continuous improvement process” for avoiding waste in administration and production has been actively implemented in many areas.

Annual internal audits, employee training and guidance in the areas of quality, energy, environment and health and safety complete the qualification programme for our members of staff.

Legal Compliance

All the legal regulations to be complied with are held in a legal register with the appropriate liability in writing. The legal register is updated annually, or when necessary. Compliance with the contents of DIN EN ISO 14001:2018 is guaranteed.

As the BOS GmbH has no plants subject to approval in regard to the Federal Emissions Control Act, any eventual environmental effects are classified as minor. There were no environmentally relevant complaints from the neighbourhood (noise) in the last reporting period.

The emission values and obligations required by the District of Steinfurt Environmental Agency are complied with at all paint facilities.
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Die Zielerreichung des Jahres 2022

Environment / Energy management target	Programmes and measures	Target value 2022	Actual value 2022
Reduction of relevant electricity consumption (in kWh/used t. of steel)	Increased use of LED light sources. Control as to whether further frequency inverters can be employed. Responsible: ISA	- 2.0 %	- 3.9 %
Reduction of relevant gas consumption without heating (in kWh/used t. of steel)	Lowering of the immersion oven temperature by 5°C during the summer, as well as lowering the temperature of the hall by 1°C. Further improvement in the use of powder ovens. Responsible: QM	- 2.0 %	- 8.0 %
Reduction of residual waste (in kg/employee)	New employees are trained by the QM. Uniform coloured rubbish bins have been introduced. Responsible: QM	- 2.0 %	- 16.5 %

The reference value of the "target value 2022" is that of the previous year 2021.

The objectives listed above are the main objectives of our company. These main objectives are made concrete in an internal action plan and are further managed internally.

Among others, the following improvements have taken place in the last year:

- Pressurisation system equipped with frequency converter
- Electrical switch-off of the compressors on Saturday
- In administration replacement of neon tubes and insert lights with LED
- Compressor pressurisation system installed
- Lights from lighting strings used for emergency lighting
- Closing the dip bath oven door (previously 20 cm gap to the draining zone)
- New spray primer formulation developed, therefore lower oven temperature possible
- Reduction of the immersion bath oven temperature from 110° to 105° Celsius

The reasons for the changes in relative consumption in relation to electricity can be found on page 17, to gas on page 19, and to residual waste on page 20.

At this point, it is worth mentioning the idea of reducing water consumption at BOS.
In spring 2020, we installed so-called adjustable aerators at all taps and set them for the lowest possible water flow.

However, due to the considerably lower amount of water flowing through, the effect was that the drains became clogged almost every week and could only be unclogged by time-consuming and expensive flushing.

We therefore had to open the aerators again to get a "flushing effect" and free drainpipes.

We also put up some blue tit nesting boxes in 2022 to curb the population of oak processionary moths.

In addition, Jeld Wen launched a seed campaign so that many trees were sown.

Unsere Umwelt- und Energieprogramme (Ziele) 2023 –Allgemein-

The environmental and energy programmes (targets) are evaluated by the management every six months. Should the non-attainment of a target be foreseeable, an adjustment can take place.

The definition of the environmental and energy programmes (targets) is valid for one year.

Further potential for future environmental and energy programmes (targets) can be found in environmental protection, in alternative energy and in the increase of awareness for the environment.

The environmental and energy programmes (targets) for 2023 are based on the results status of 2022, whereby the target values have been newly defined. The results from 2022 should be further undershot where possible and at the least maintained.

Further environmental/energy targets are to uphold the existing certificates of the DIN standards 14.001 and 45.001 and 50.001.

The specific environmental and energy programmes (targets) are listed on the following pages.

Our specific environmental and energy programmes (targets) 2023 – specific

Environment / Energy target	Programmes and measures	Target value 2022	Date
Reduction of relevant electricity consumption (in kWh/used t. of steel)	Increased use of LED light sources. Control as to whether further frequency inverters can be employed, machine shutdowns. Responsible: ISA	- 2.0 %	End of 2023
Reduction of relevant gas consumption without heating (in kWh/used t. of steel)	Lowering of the immersion oven temperature by 5°C between 01.05 to 30.09 (possibly earlier), as well as lowering the temperature of the hall by 1°C. Further improvement in the use of powder ovens. Responsible: QM	- 2.0 %	End of 2023
Reduction of residual waste (in kg/employee)	All employees will be trained once a year by the IM. Responsible: QM	- 2.0 %	End of 2023

The reference value of the "2023 target" is that of the previous year 2022.

The targets listed above are the main targets of our company.
These main targets are made concrete in an internal action plan, where they are provided with sub-targets if necessary and then pursued further internally.

Unsere langfristigen Umwelt- und Energieziele (bis 2028)

- Maintenance of existing certification (DIN EN ISO 9.001; DIN EN ISO 14.001; DIN EN ISO 45.001; DIN EN ISO 50.001.
  Responsible: Quality management
  Status: Annual audits in September / October by TÜV Nord

- Further reduction/keeping constant of lorry diesel consumption, through use of lorries with BAT (best available technology).
  Responsible: Dispatch / Shipping
  Status: Regular exchange of lorries; there will be 2 new lorries in 2024.

- Maintaining the audit programmes while covering all areas as simultaneously as possible.
  Responsible: Quality management
  Status: Main areas are audited at least once a year.

- Further reduction of paper consumption, amongst others via a new ERP system and further use of DMS system ELO.
  Responsible: Production planning / FA / Operational management (manufacture) / Sales
  Status: Paper consumption in 2022 has risen by about 37.7%.

- Further gas and electricity consumption reductions via e.g., condensing boiler technology (new heating administration), exchange of light sources, use of frequency inverters, improvement in the efficiency of the powder ovens, adjustment of the primer etc.
Testing of the use of a photovoltaic system on the hall extension.
  Responsible: Managing director / Environmental management team
  Status: Lighting replacement in administration, frequency converter in pressure filling system.

- Logistics/shipping improvements via e.g., route optimisation (IT system Catrin), increased and temporary incorporation of lorry drivers in the dispatch for planning tours as well as the improvement of the tour compilation and loading of lorries.
  Improvement of the return or loading rate.
  Responsible: Shipping
  Status: Despite improvement of the return journey rate, diesel consumption (litre / 100km) has remained the same.

- Reconstruction of sub-distributions to reach the current state of the art, additional shutdown possibilities from all workplaces and new / additional measuring possibilities.
  Responsible: Maintenance
  Status: Due to staff changes, this project is on hold.

- Expansion of the measuring instruments for more detailed recording of consumption.
  Responsible: Maintenance / Environmental management team
  Status: Project should be continuously followed.

- Introduction of the noise reduction concept via installation of tensioning systems on the saws, use of new saw blades as well as enclosing the saws.
  Responsible: Maintenance / Operational management
  Status: Housing on almost all saws.

- Continuation and expansion of energy measurements in order to be able to make more detailed statements on potential savings and to reach further KPI´s.
  Responsible: Maintenance / Environmental management team
  Status: Evaluation "Main Compilation Energy" significantly expanded. Climate correction factor introduced.

- Extension of random measurements (single measurements) at machines with higher consumption or at the main consumers.
  Responsible: Maintenance / Environmental management team
  Status: Currently all measuring devices are permanently installed, new ones will be added during 2023 - 2024.

Declaration of the environmental auditor

The undersigned Wolfgang Wielputz, EMAS environmental verifier with registration number DE-V0046, accredited or licensed for the sector 2511 2512 (NACE Code), and the environmental verifier Dr. Anette Czediwoda with registration number DE-V0389, certify that they have verified whether the site or the whole organisation, as specified in the current environmental statement of the organisation BOS GmbH with registration number D-156-00086, meets all the requirements of Regulation (EC) No. 1221/2009 of the European Parliament and of the Council of 25 November 2009, taking into account Regulation (EC) 2017/1505 of 28 August 2017 and Regulation (EU) 2018/2026 of 19 December 2018, on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

By signing this declaration, it is confirmed that,

- the verification and validation were carried out in full compliance with the requirements of Regulation (EC) No. 1221/2009 and Regulation (EC) 2017/1505 and Regulation (EU) 2018/2026,
- the results of the verification and validation confirm that no evidence of non-compliance to the current environmental legislation is present,
- the data and information in the environmental statement of the organisation BOS give a reliable, credible and true picture of all the organisation's activities within the scope indicated in the environmental statement.

This statement cannot be equated with an EMAS registration. EMAS registration can only be carried out by a responsible authority in accordance with the regulation (EC) No.:1221/2009. This statement may not be used as an independent basis for informing the public.

Emsdetten 20.09.2023,

Wolfgang Wielpütz

Dr. Anette Czediwoda