GRUNER
SWITCH TO INNOVATIONS

ENVIRONMENTAL STATEMENT 2022

GRUNER AG WEHINGEN – DATES UNTIL END 2021

gruner.de

Environmental Statement 2022

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1 FOREWORD

Dear Readers,

This environmental statement presents the ecological performance of Gruner AG in recent years. The most important basis for the continuous increase in environmental performance is our functioning environmental management system at the Wehingen site and the sustainable economic success achieved by the company.
We see our environmental management as an ongoing process on which we continuously work to improve ourselves.
With this environmental statement, we can transparently document that we have lived, maintained and sensibly developed our system. This can be seen above all in the "hard" facts of our environmental balance sheet. We will continue to face up to this responsibility in the future and work actively on development, not least through a well-established internal audit system with which we review the goals and activities we have set ourselves at regular intervals.
Within the framework of the environmental management system, we as a company not only want to comply with and improve environmental aspects ourselves, but also want to inform the public and our employees about our activities. The employees are always informed about the developments and plans of the Gruner AG company through company meetings, our employee newspaper and notices on information boards.
We will continue to work intensively on solutions to further optimise our processes and our products. In this way, we are integrating the aspect of sustainability more and more into our daily thoughts and actions, and at the same time we are trying to continuously sensitise all our employees to the areas of environment and sustainability. Within the framework of our agile teams and our company suggestion scheme "GRISU", all employees have the opportunity to actively participate in our environmental management system and to support it with their ideas and potential for improvement, thus helping us to move forward.

Validity of the German Version
The Environmental Statement is published in German and English. In the event of discrepancies, only the German version is binding and verified by EMAS environmental verifier.

2 INTRODUCTION OF THE GRUNER AG

FIGURE 1: AERIAL VIEW OF THE CERTIFIED SITE IN WEHINGEN

Since the company was founded in 1953, we have succeeded in opening up new technologies and continuously developing both them and ourselves. Today, we employ a total of around 400 people at our headquarters in Wehingen in south-western Germany. Our range of products and solutions covers a wide variety of applications in the automotive, technical building equipment and automation sectors.

Since the company was founded in 1953 by Wolfgang Gruner in Wehingen, the company has succeeded in achieving a leading position in highly competitive markets. After an assembly plant was built in Tunisia in 1977, a new era began in 1982. With the arrival of Eduard Spreitzer, the product portfolio is consistently reorganised and streamlined. The unique know-how for relays, solenoids and actuators again becomes the basis for penetrating promising market niches.

As early as 1985, the first bistable relays are introduced, followed by ISO 9001 certification in 1996 and ISO/TS 16949 ten years later. At the same time, a subsidiary is founded in Serbia. Milestones include the series introduction of the 750H battery isolating relay and the development of a volume flow sensor for actuators, which is awarded a major innovation prize. In 2009, Gruner opens its third foreign plant in India. Today, Gruner employs around 1,500 people worldwide. The course for further growth has thus been set - through sustained high investments in technologies, buildings and employees. Following customers and markets technologically and geographically remains an essential perspective for the future. Our product portfolio includes the following three categories:

- Actuators

FIGURE 2: EXCERPT OF OUR ACTUATOR PRODUCT RANGE

Actuators have been an important product area of the company since 1954. Gruner has succeeded in building up a complete portfolio that is steadily gaining market share. All models represent cost efficiency and the greatest possible flexibility in building management. From classic to volume flow control, from high-speed to spindle drive: there is a suitable product for every need. Committed to consistent customer orientation, Gruner also provides a range of OEM-specific models of rotary and linear actuators. Tailor-made - and always according to the motto "competent, flexible, friendly".

Typical applications are the setting and control of dampers and valves, mixed air boxes, Ja-lousia, smoke and flue dampers or motorised valves. All actuators comply with DIN VDE standards and CE directives. UL versions are also available. In general, Gruner actuators contain motors (BDC, BLDC) for safe shutdown in case of overload and can be equipped with synchronous or stepper motors on request. Gruner also offers the greatest possible freedom of choice in terms of control, supply, options and accessories. Gruner develops the entire mechatronics (mechanics, circuitry, software) completely in-house.

- Magnets

FIGURE 3: EXCERPT OF OUR MAGNETS PRODUCT RANGE

Gruner magnets are far ahead in the field. Developed specifically for the customer, they meet the difficult challenges of demanding users. In short: Wherever actuating solenoids are used to realise linear pulling or pushing functional processes, the well-founded, specialised know-how becomes a decisive advantage. Positioning, holding, diverting. Ejecting or locking.

In addition to linear solenoids, push solenoids, holding solenoids and hinged armature solenoids, it opens up a wide variety of designs. Since the requirements of the target industries - automotive, heating-ventilation-air-conditioning and mechatronics - differ in detail, the development of customer-specific solutions is a special focus. The spectrum spans such contrasting fields of technology as engine management and transmission control, hot and service water control or access authorisation and card reading systems. Gruner always succeeds in enriching solutions with customised developments.

Gruner has been developing customer-specific electromagnets for more than 50 years. Due to its simple design, the electromagnet is an inexpensive actuator for a wide variety of customer requirements. Electromagnets are used for functions such as positioning, ejecting, locking, diverting, clamping, locking and holding. In the automotive sector, Gruner electromagnets have a positive influence on safety, the environment, comfort and ease of use in an ambient temperature range of -40 °C to +105 °C. In automotive interiors, Gruner solenoids switch and move gear selectors and drive authorisation systems with low noise. Electromagnets are suitable for all these functions, but they must be specially adapted to the customer's requirements.

- Relais

FIGURE 4: EXCERPT OF OUR RELAY PRODUCT RANGE

With a long and successful tradition, Gruner is one of the world's last independent manufacturers of relays. Today, Gruner products are often mandatorily prescribed by the industry. A fact that confirms and justifies the company's claim - innovation instead of imitation - on the market. In the field of bistable relays for energy management, the company is the undisputed technology and world market leader.

Thanks to outstanding performance features and many standardised components, bistable relays from Gruner are predestined for a wide range of applications. They are used, for example, in ripple control receivers and soft starters, in load management, the prepayment sector or in battery management in automobiles.

They convince through high switching performance with reduced energy consumption, maximum switching reliability with a long service life as well as absolute reliability with a minimum of mechanical components. Like all Gruner solutions, they combine functionality and economy in perfect synthesis.

Intelligent, production-accompanying test systems for 100% testing, years of refinement of identical design principles and the integration of genuine innovations ensure that the Gruner relay brand will retain its qualitative edge in the future.

Zur Übersicht und zum besseren Verständnis unseres Unternehmens soll die folgende Abbildung die Prozesse unseres Standortes in Wehingen darstellen:

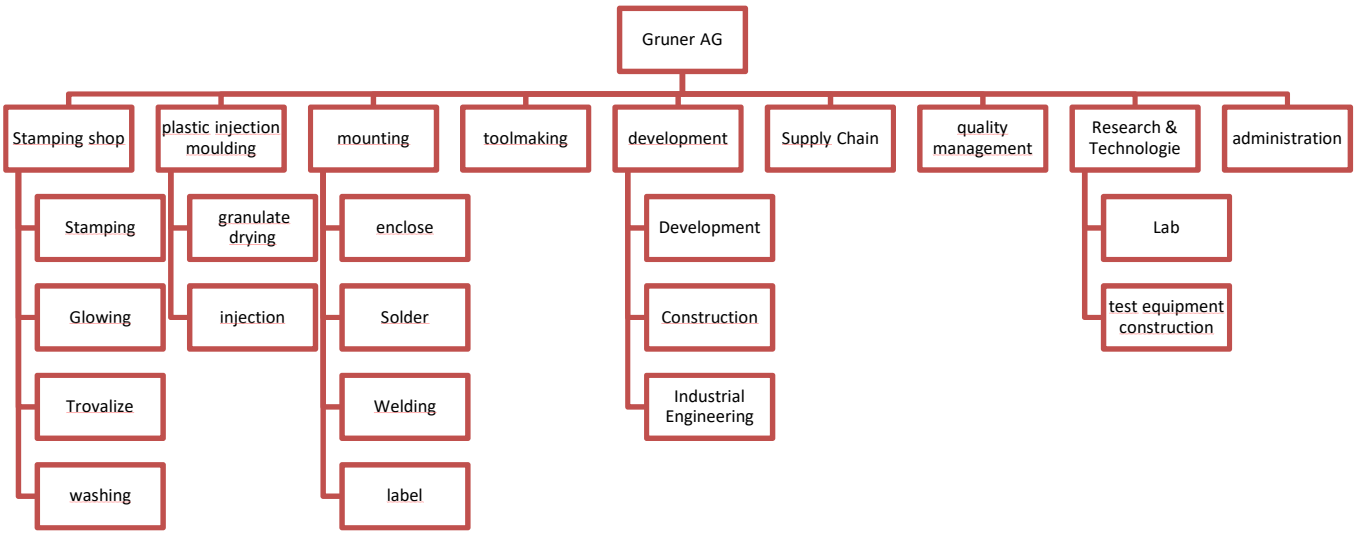

FIGURE 5: PROCESS OVERVIEW OF GRUNER AG AT THE WEHINGEN SITE

The vertical range of manufacture of Gruner AG becomes clear here at a glance. Our products and tools are first designed and developed in-house. This is followed by the use of our tools in the injection moulding shop, winding shop and stamping shop, where the individual parts are created accordingly, which are then assembled, fitted and later tested in the assembly department. An important and continuously supporting process here is quality assurance.

Occupational safety and environmental protection have been an important part of our corporate philosophy since the 1990s. It has been a concern to reduce work and environmental pollution in any form to a minimum and to conserve resources. E.G.:

- Constant attention was paid to the substitution of hazardous materials.
- Scrap metal has always been collected separately and sent for recycling.

- Copper reprocessing was started in the mid-1990s.
- The waste was collected separately.Mit der Regenwassernutzung wurde Mitte den 90er Jahren begonnen.
- A heat pump for process heat was installed in 2007.
- The heat from the compressors has been used since 2008 and 2011 by installing heat recovery systems.

Since the Gruner company was founded, a residential area has developed around the company premises. In order to avoid conflicts with the neighbours, the company tries to keep the impact as low as possible. The buildings of the company extensions were designed accordingly. This measure in particular involved the residents in advance. A number of comments were taken on board and implemented (car park demarcation, route of paths, etc.).

After the establishment of the environmental management system in 2016, environmental protection is also firmly anchored as a support for all other processes. Furthermore, production is accompanied by administrative processes (such as procurement and sales) and by the supply chain (logistics / shipping), as well as designed, planned and optimised by industrial engineering.

3 Environmental Policy Gruner AG

Environmental protection is an important corporate goal at our company in Wehingen; we want to contribute to relieving the burden on the environment. The endeavour to protect the environment is an obligation for our company towards our customers, our fellow human beings and future generations.
With our environmental management system and the active participation of all employees, we want to contribute to sustainable development at our site in Wehingen. When designing our environmental management system, we also take into account current developments in our company's environment as well as the expectations and needs of interested parties.
For us, operational environmental precaution means taking a holistic view of operational processes, analysing them and integrating environmental aspects as far as possible. In this way, we conserve resources and minimise the impact on the environment.
We comply with the binding obligations relevant to us and are also committed to continuously improving our environmental performance. In all our environmental protection measures, we are guided by the best available and economically applicable technology.
We achieve successful environmental protection through the involvement of management and the proactive participation of all employees. For this reason, we inform every employee so well that he or she can take direct responsibility and environmental protection is actively "lived" in our company.
We want to engage in an open and objective dialogue with our business partners, neighbours, authorities and other interested parties about the environmental impact of our operations and are open to suggestions for improvement.
In the procurement of our raw and auxiliary materials as well as in the design, packaging and delivery of our products and services, we observe ecological criteria as far as possible and economically justifiable. We give preference to suppliers who attach as much importance to environmental protection as we do.

4 Environmental management system

Gruner AG's environmental management system is essentially determined by the environmental team, the environmental management manual, which describes the system in overview, and employee involvement.

4.1 Scope of validity

The environmental management system applies to Gruner AG in Wehingen with all existing functions and processes.

4.2 Environmental Management officer

Our Environmental Management Officer is responsible for the implementation, maintenance and continuous improvement of the environmental management system including documentation in accordance with relevant environmental standards for Gruner AG. The main tasks are therefore:

1. implementation of the environmental policy and environmental goals and monitoring the extent to which the environmental goals have been achieved

2. preparation, administration and updating of the documentation of the environmental management system

3. preparation of the review

4. organising and carrying out internal audits and following up on remedial and improvement measures

5. coordination, organisation and monitoring of external certification audits

6. updating, documentation and implementation of the environmental programme

7. annual update of the assessment of environmental impacts

8. regular determination of the currently applicable environmental requirements as well as the regulations related to the eco-audit regulation

9. updating the environmental statement

10. training and informing employees on how to avoid or reduce environmental impacts

11. participation in management meetings

4.3 Environment Team

The environmental team consists of the environmental management officer and various employees from different areas. The areas of communication and employees, fire protection, occupational safety, maintenance, etc. are covered. The goal of the environmental team is to identify and drive improvements in Gruner's environmental performance. The team meetings are held in fixed cycles and the actions are documented in the corresponding team board.

4.4 Structure and Documentation of the Environmental Management system

The regulations of our environmental management system are described in our environmental management manual and other applicable documents. All other applicable documents are referenced in the environmental management manual (with storage location). The environmental management manual and other standard documents are processed, checked and approved in an electronic document management system. Records are stored on the server.

4.5 Employee involvement

Communication with our employees and within our company is an essential element of our environmental management system. Therefore, we have laid down regulations in the environmental management manual for internal communication.

The topic of environmental protection has been integrated into the existing internal suggestion system "GRISU".

We use the following means for internal communication:

- Meetings
- E-mail circulars
- Notices (noticeboard)
- Staff meetings

- Newsletter / reports in HR-News
- GRISU" suggestion system
- Defect control loop / autonomous maintenance
- Shopfloor boards (MS teams)

Before the introduction of the environmental management system, all employees were asked to participate in a survey on the company's environmental strengths and weaknesses. A new employee survey was conducted in 2022 to give all employees the opportunity to express their opinions directly on an ongoing basis and to raise their awareness of active involvement. At the same time, the environmental team gains an insight into the employees' views and can thus improve the company's environmental performance in symbiosis with them.

5 Definition environmental aspects

Environmental aspects are aspects of "an organisation's activities, products or services" that may have an impact on the environment. Basically, environmental aspects are divided into direct and indirect environmental aspects.

Direct environmental aspects are energy consumption, water consumption, consumption of operating resources (paper), land consumption, waste generation and emissions. They arise as a direct consequence of the activities at the site and can be controlled.

Indirect environmental aspects arise indirectly from Gruner's activities, without those responsible having complete control over the implementation of the specifications.

Not all environmental aspects can always be precisely differentiated into direct or indirect environmental aspects. Rather, it is crucial that all material environmental aspects of the organisation are identified and assessed. The assessment of materiality is carried out (annually) by the environmental management officer and the environmental team.

5.1 PROCEDURES FOR THE IDENTIFICATION AND ASSESSMENT OF ENVIRONMENTAL ASPECTS

The identification and assessment of environmental aspects is carried out in direct cooperation with the departments. The ABC assessment scheme recommended by the German Federal Environment Agency (UBA) is used for the assessment and is shown below:

TABLE 1: ABC- RATING SCHEME OF THE UBA[1]

Quantitative importance	Projected future development	Hazard potential		
		high (A) average (B) low (C)	high (A) average (B) low (C)	high (A) average (B) low (C)
high (A)	increasing (A)	A	A	B
	stagnating (B)	A	B	B
	decreasing (C)	B	B	B
average (B)	increasing (A)	A	B	B
	stagnating (B)	B	C	C
	decreasing (C)	B	C	C
low (C)	increasing (A)	B	B	B
	stagnating (B)	B	C	C
	decreasing (C)	B	C	C

After this classification of the environmental aspects into categories A, B or C, the environmental aspects are evaluated with regard to the potential influence of a site. The following additional categories were defined for this purpose:

I A large control potential is also available in the short term,

II The environmental aspect can be controlled sustainably, but only in the medium to long term,

III There is no control potential for this environmental aspect, only in the very long term or only depending on decisions by third parties.

[1] Quelle: http://www.bmub.bund.de/fileadmin/Daten_BMU/Pools/Broschueren/umwelterklaerung_2014_bf.pdf

An environmental aspect that is rated A and I, for example, is a particularly important environmental aspect with high relevance for action, for which there is also a relatively large potential for control in the short term.

5.2 DIRECT ENVIRONMENTAL ASPECTS

In principle, the environmental management officer is responsible for the collection of environmental aspects and the core indicators derived from them. The core indicators to be collected are derived from the EMAS Regulation (Annex IV C) and are collected in the following key areas for a full calendar year:

- Energy efficiency

- material efficiency

- water

- waste

- Biodiversity

- Emissions (of greenhouse gases and air emissions)

Gruner's core indicators are stated using turnover as a reference. The total annual inputs/impacts in the relevant area are given as follows:

- Energy efficiency area:

Total direct energy consumption with indication of total annual energy consumption expressed in MWh/turnover.

Total renewable energy consumption, indicating the share of energy from renewable energy sources in total annual consumption.

- Material efficiency sector:

Total annual consumption of the most important materials (aluminium, iron, copper, PE plastic granulate (incl. cleaning granulate), solder, cleaning granulate, blasting agent, biocide for air-conditioning and cooling water, copying paper, etc.). Air-conditioning and cooling water, copying paper, safety gloves) expressed in t/turnover or pieces/turnover.

- Water sector:

Total annual water consumption expressed in m^3/turnover.

- Waste sector:

"total annual waste generation" broken down by waste type and expressed in tonnes/turnover.

- Biodiversity:

Land consumption expressed in m^2 built-up area and m^2 built-up area/turnover.

- Emissions sector:

total annual emissions of greenhouse gases, which include emissions of CO2, expressed in tonnes of CO2 equivalent and tonnes/turnover

total annual emissions to air, which include emissions of SO2, NOX and PM, expressed in tonnes/turnover.

The core indicators are also used to monitor the achievement of environmental targets. Furthermore, they serve as a basis for the development of future measures (see environmental goal setting). Selected files and key figures are prepared in a comprehensible form to inform employees about the development of environmental protection.

The EMAS Regulation makes it easier to deal with the direct environmental aspects by defining the main environmental aspects of an organisation in Annex I. The following graphs show the relevant direct environmental aspects.

The following graphs show the relevant direct environmental aspects with their respective environmental impacts. In addition, the table shows the result of the evaluation of the individual environmental aspects carried out according to the ABC evaluation scheme.

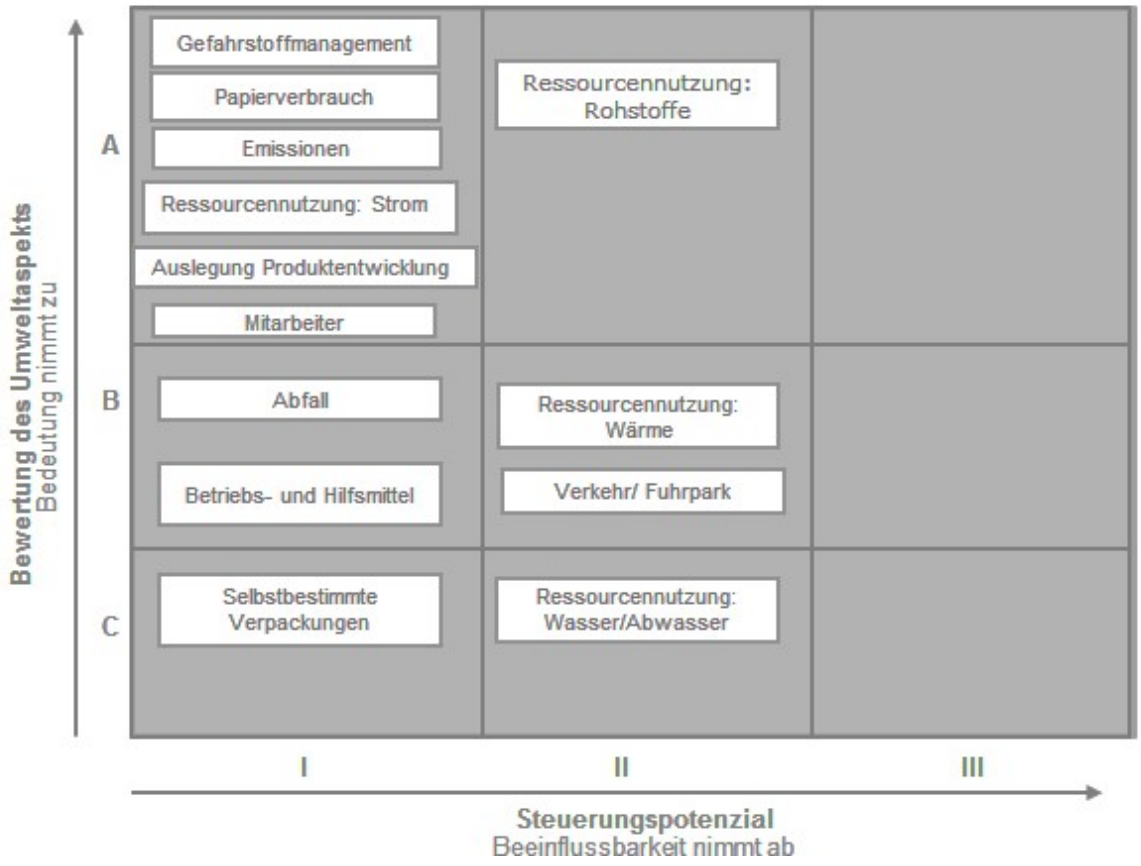

FIGURE 6: DIRECT ENVIRONMENTAL ASPECTS OF THE GRUNER AG

The handling of hazardous substances is highly relevant. At the Wehingen site, the goal is to successively reduce these and to contain the diversity that has developed over the years. In order to achieve this, the substitution check must be continuously implemented and the documentation obligations with regard to CMR substances must be improved. In addition, the new requirements according to the GefStV and CLP are to be implemented. A similarly relevant aspect is paper consumption, which is to be reduced with the help of document management. Annual consumption is thus to be drastically reduced and more environmentally friendly alternatives are to be used in purchasing. In addition, the emissions caused by the constant transports between the plants, which are carried out by service providers, are among the very important and easily controllable environmental aspects. Here, the quantifiable emissions are to be determined with the help of the transporters. Electricity consumption is another important factor that

should be reduced directly through energy management. Furthermore, the aspect of resource conservation should be taken into account in the design and development of products. It is very important to us that our employees are actively involved in our environmental management system, so that they carry the system beyond Gruner, for example into their own homes. This is to be achieved primarily through compulsory participation in a survey on environmental areas within the company. The volume of waste reflects an environmental aspect classified as medium, since most of the waste is secondary raw material for subcontractors, which can nevertheless be controlled directly. Another aspect of this category is the amount of operating and auxiliary materials, which are also directly influenced, but can be significantly lower in quantity than the raw materials. A marginal relevance was assigned to self-determined packaging, since the majority of the packaging used in our company is reusable packaging determined by the customers. The aspects of raw material use, heat use, transport/vehicle fleet and water use have less influence. However, the relevance of the environmental impacts decreases in the same order, which is why appropriate savings measures should be considered here as well.

5.3 INDIRECT ENVIRONMENTAL ASPECTS

The collection and evaluation of indirect environmental aspects is usually only possible on the basis of qualitative assessments, as these are usually less quantifiable than the direct environmental aspects described above. In order to record all significant indirect environmental aspects, Gruner's processes are analysed and then evaluated using the assessment procedure described in 5.3. The aspects are listed again in an environmental register with their respective environmental relevance.

The following diagram lists the topics and fields of action of Gruner AG that are considered indirect environmental aspects. This diagram also shows the evaluation of the individual indirect environmental aspects.

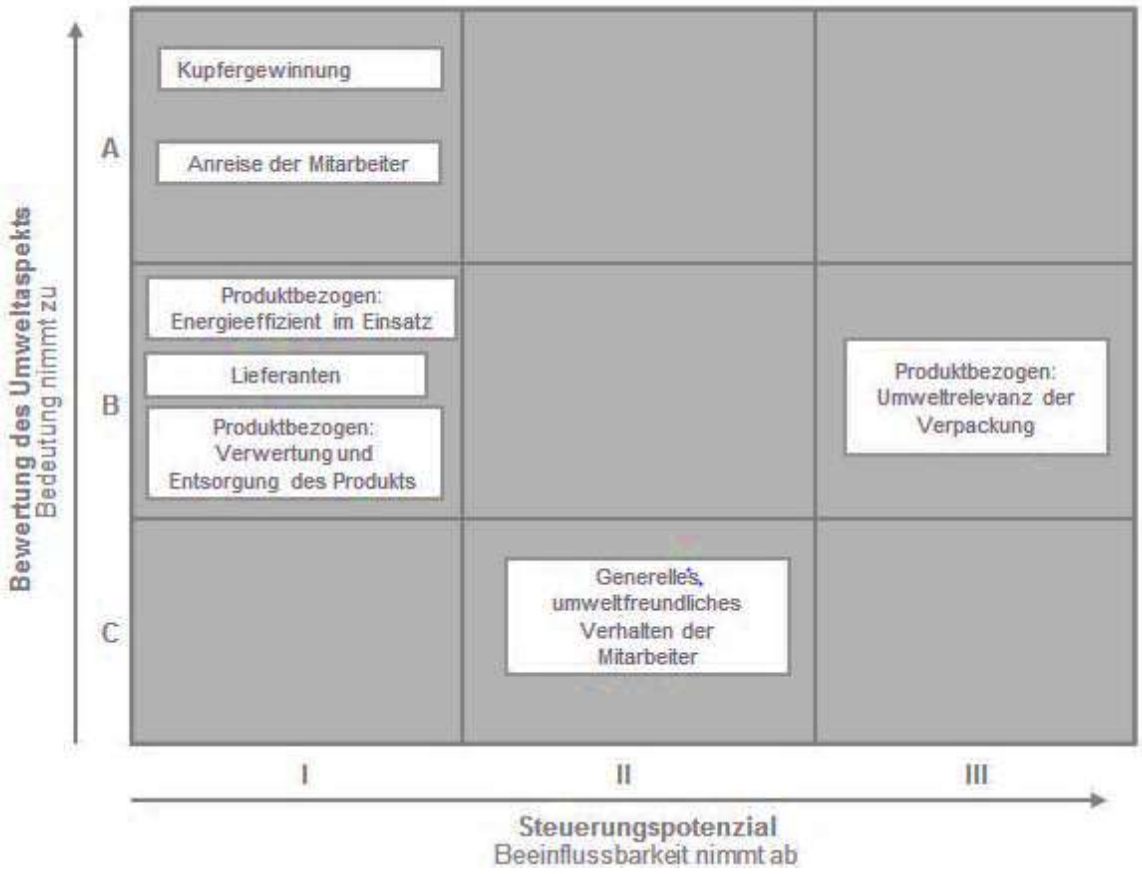

FIGURE 7: INDIRECT ENVIRONMENTAL ASPECTS OF THE GRUNER AG

Indirect environmental aspects include, above all, copper extraction and production, over which we can have a direct and significant influence in terms of supplier selection. We also see the travel of our employees as an important issue that should be examined more closely, continuously monitored and made more environmentally friendly. The aspects of more energy-efficient use of our products, the suppliers and the subsequent recycling and disposal options for our products are of medium relevance. Another indirect environmental aspect is reflected in the general environmentally friendly behaviour of our employees, which we can only marginally influence. The environmental relevance of the packaging prescribed by the customers is of medium relevance due to its reusable properties in large quantities and can therefore hardly be controlled by us.

6 ENVIRONMENTAL GOAL SETTING AND ENVIRONMENTAL MEASURES

Objectives and measures result from all the points mentioned in the previous section, the top-down as well as the bottom-up method. The following diagram shows the dialogue between objectives and measures:

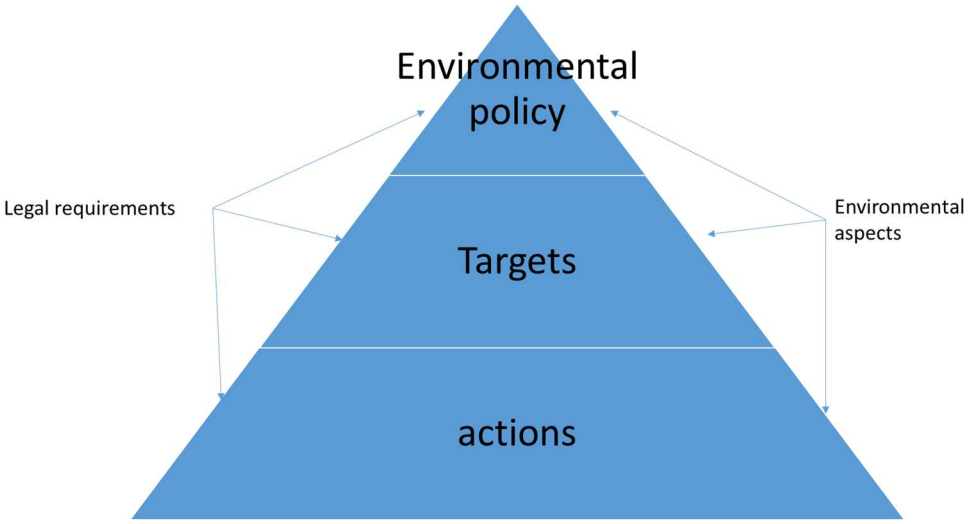

FIGURE 8: TOP DOWN METHOD FOR SETTING TARGETS AND MEASURES OF A SURVEY

Accordingly, measures can be developed from operational objectives, which in turn arise from the top down from strategic objectives of environmental policy in accordance with legal requirements and environmental aspects. According to this scheme, we have defined strategic and operational goals as well as measures. This environmental programme will be expanded to include further points arising from the bot-tom-up method, which takes the reverse route of the top-down variant. Here, measures are added, for example, from the suggestions of the employees, the legal obligations and, if necessary, assigned to the already existing or newly defined strategic and operational goals.

6.1 ENVIRONMENTAL GOALS 2021

In der folgenden Tabelle sind die Umweltziele des vergangenen Jahres mit Bewertung aufgelistet.

TABLE 2: OPERATIONAL TARGETS AND MEASURES INCLUDING EVALUATION

Operational target	Measured variable(s) or key figure	Start value	Target value	Value end 2021	Achieved?
Energy consumption decreases by 5%.	Energy consumption [kWh]	2.361.582	2.243.502	2.538.563	no
CO2e emissions from own car fleet reduce by 5% by the end of 2023.	g CO2 / km	142,6	135,5	132,0	yes
No complaints from local residents and employees about emissions from the company.	Complaints / year	-	0	1	No
The number of hazardous substances in the company as a whole is reduced by 10%.	Number of hazardous substances	187	169	193	No
The total amount of mixed municipal waste (residual waste) decreases by 10%.	Amount of residual waste [kg]	33.220	29.898	29.500	Yes
The need for printer paper is reduced by 10%.	Printer paper sheets / year	800.000	720.000	800.000	No
GRISU receives at least 2 environmental proposals per year.	Number of suggestions / year	-	2	4	Yes
Biodiversity increases through one compensatory measure per year.	Number of measures / year	-	1	1	yes

6.2 Environmental goals 2022

Operational target	Measured variable(s) or index number	Start value	Target value	Actions to achieve the target
Energy consumption decreases by 5%.	Energy consumption [kWh]	2.538.560	2.411.632	LED lighting, energy efficiency installations, awareness
CO2e emissions from own car fleet reduced by 5% by the end of 2023.	g CO2 / km	142,6	135,5	Conversion to hybrid / e-vehicles, or improved emission values
No complaints from local residents and employees about emissions from the company.	Complaints / year	1	0	Open communication with interested parties
The number of hazardous substances in the company as a whole is reduced by 10%.	Number of hazardous substances	193	174	Standardization of hazardous substances
The total amount of mixed municipal waste (residual waste) decreases by 10%.	Amount of residual waste [kg]	29.500	26.550	Optimization of waste separation, reduction in packaging
The need for printer paper is reduced by 10%.	Printer paper sheets / year	800.000	720.000	Reduction of printouts, e.g. by digital signature
GRISU receives at least 2 environmental proposals per year.	Number of suggestions / year	4	2	Motivation of the employees in annual environmental briefing
Biodiversity increases through one compensatory measure per year.	Number of measures / year	1	1	Implementation of internal or external projects

7 DATA ON THE ENVIRONMENTAL PERFORMANCE OF GRUNER AG

Our environmental targets and the environmental measures derived from them are the most important environmental management tool for achieving continuous improvement in our environmental performance. The core indicators, which are calculated on the basis of consumption data set in relation to a reference value, are listed below.

The values of land consumption, operating resources, energy, water, waste and emissions of Gruner AG are compared for the consecutive years 2013 to 2018. This allows the years to be compared with each other and the development of environmental performance to be assessed. The core indicators are presented individually in tables. The reference value for our core indicators is turnover. In addition, from 2020 onwards, the number of man-days will be taken into account as a variable. As there is still a limited amount of data available here, turnover will continue to be taken into account in parallel as a reference variable for the time being.

In accordance with Official Journal EU L 76/26 of 19 March 2013, we have linked our turnover, which serves as a reference value for the core indicators, to the base year as follows:

TABLE 3: REFERENCE SIZE FOR CALCULATING THE CORE INDICATORS

Reference value	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
sales	(based on 2013) and expressed in euro.	100	96	115	122	143	149	174	159	182
Number of employees		362	369	384	408	390	381	402	395	414
Personendaye									57929,01	75084,49

The core indicators in bold in the following sections reflect the indicators required by Annex IV, section C2 of the EMAS Regulation. All others are intended to better explain the context to the reader.

7.1 ENERGY EFFICIENCY AREA

Since the beginning of 2018, Gruner AG has been supplied with green electricity with guarantees of origin. The share of renewable energies increased significantly as a result.

With regard to heating oil consumption, strong fluctuations can be seen, as only the purchase can be considered here at present and not the current consumption.

Gas consumption increased in 2021 compared to previous years. The reasons for this are that less heat could be recovered through the use of more energy-efficient machines, and that gates were sometimes open for longer periods due to various construction and relocation measures.

TABLE 4: ENERGY CONSUMPTION DATA

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Energy-efficiency										
Power consumption	MWh	2811,42	2898,47	3024,24	3143,15	2982,95	2428,62	2377,82	2361,58	2538,56
Power consumption / Sales	MWh / €	28,11	30,20	26,32	25,84	20,82	16,29	13,67	14,90	13,98
Electricity consumption / PT	MWh / day								0,04	0,03
Heating energy consumption	MWh	483,73	365,94	343,65	282,86	362,25	400,26	432,20	348,18	666,18
Heating energy consumption / sales	MWh / €	4,84	3,81	2,99	2,33	2,53	2,68	2,48	2,20	3,67
Heating energy consumption / PT	MWh / day								0,01	0,01
Weather-adjusted heating energy consumption	MWh	382,15	340,33	302,41	282,86	307,92	380,25	384,66	320,32	552,93
Weather-adjusted heating energy consumption / sales	MWh / €	3,82	3,55	2,63	2,33	2,15	2,55	2,21	2,02	3,05
Weather-adjusted heating energy consumption / PT	MWh / day								0,01	0,01
Diesel	kWh	95307,00	114361,00	121791,00	130227,00	132010,00	131213,04	134609,00	83275,56	98056,20
LPG	kWh	8432,00	8432,00	13492,00	12368,00	10116,00	11449,00	9276,00	7589,45	6745,92
Total fuels	MWh	103,74	122,79	135,28	142,60	142,13	142,66	143,89	90,87	104,80
Total fuels / sales	MWh / €	1,04	1,28	1,18	1,17	0,99	0,96	0,83	0,57	0,58
Total fuels / PT	MWh / day								0,00	0,00
Renewable energy consumption	MWh	854,67	1034,75	1185,50	1037,24	1067,90	2428,62	2377,82	2361,58	2538,56
Renewable energy consumption / sales	MWh / €	8,55	10,78	10,32	8,53	7,45	16,29	13,67	14,90	13,98
Renewable energy consumption / PT	MWh / day								0,04	0,03
Share of RE in total energy	%	0,25	0,31	0,34	0,29	0,31	0,82	0,80	0,84	0,77
Total energy consumption	MWh	3398,89	3387,20	3503,17	3568,61	3487,33	2971,55	2953,91	2800,62	3309,55
Total energy consumption/MA	MWh / stk	9,39	9,18	9,12	8,75	8,94	7,80	7,35	7,09	7,99
Total energy consumption / sales	MWh / €	33,99	35,30	30,49	29,34	24,34	19,93	16,98	17,66	18,23
Total energy consumption / PT	MWh / day								0,04834576	0,044077611

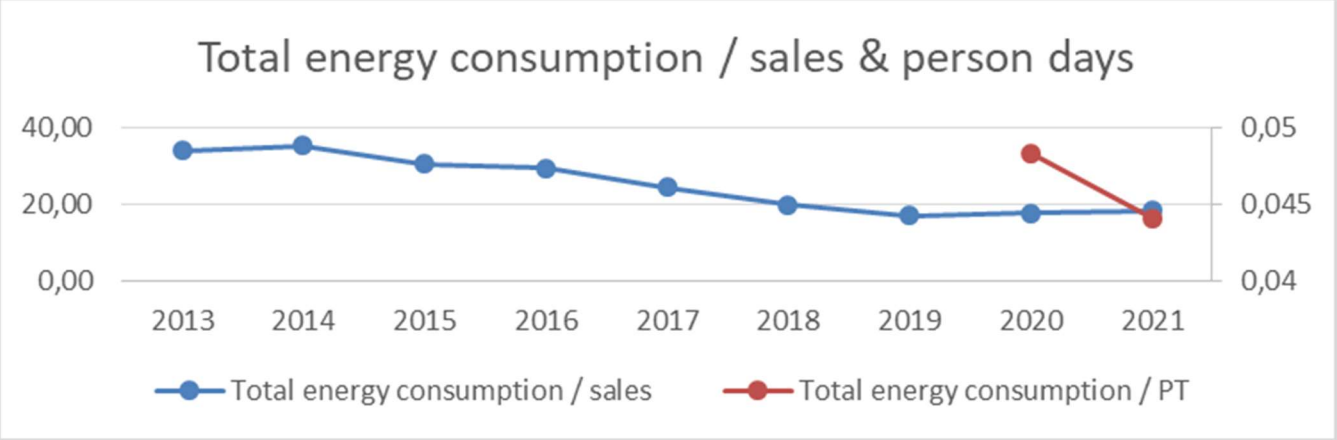

FIGURE 9: TOTAL ENERGY CONSUMPTION / SALES & PERSON DAYS

Compared to 2020, an increase in energy consumption was noticeable in 2021. However, when looking at the person days, it is noticeable that the consumption per person day is declining, which can be explained by fewer working days in 2020 due to the Corona pandemic.

7.2 AREA WATER

TABLE 5: WATER CONSUMPTION DATA

Kernindikatoren	Einheit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Wasser										
Wasserverbrauch	m³	2237,00	2501,00	2455,00	2246,00	2495,00	3085,00	2922,00	2986,00	2696,00
Wasserverbrauch / Umsatz	m³ / €	22,37	26,06	21,37	18,46	17,42	20,69	16,79	18,83	14,85
Wasserverbrauch / MA	m³ / stk	6,18	6,78	6,39	5,50	6,40	8,10	7,27	7,56	6,51
Wasserverbrauch / PT									0,051545849	0,035906215

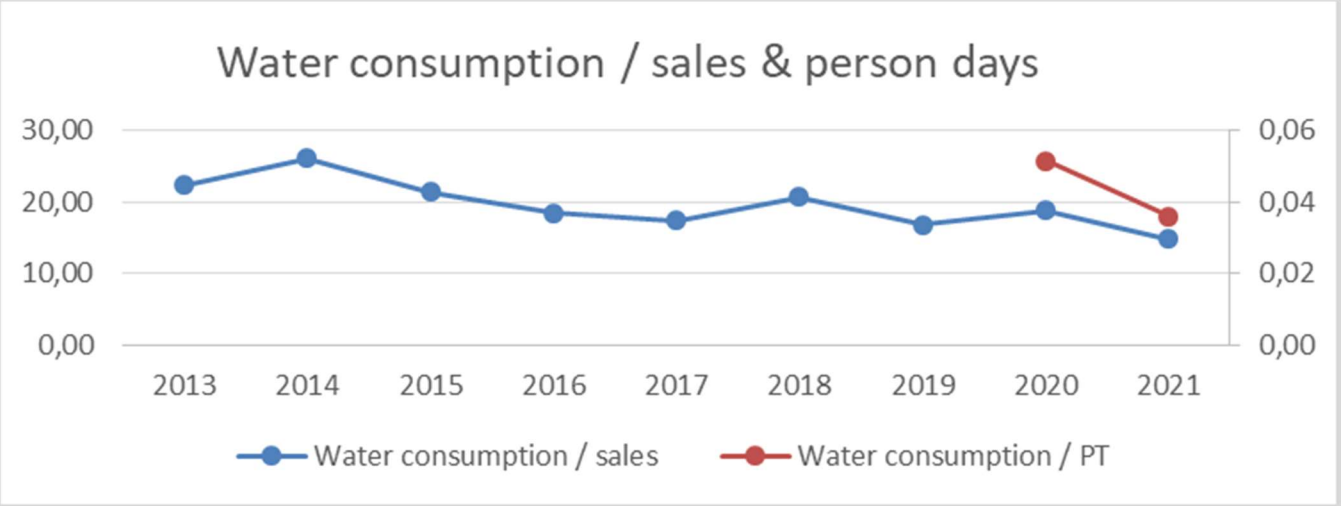

FIGURE 10: WATER CONSUMPTION / SALES

Water consumption fluctuates greatly over the course of the years under review, but a general trend towards reduction can be seen.

In 2017, an energy-saving evaporative cooling system was installed in the plastics injection moulding plant, which results in additional water consumption.

7.3 AREA OF MATERIAL EFFICIENCY

Consumption data in tonnes is recorded for raw materials and supplies for which relevant consumption data is available. The goal is to further expand the data base in the coming years. The list of all auxiliary and operating materials includes over 800 items for one year.

TABLE 6: CONSUMPTION DATA FOR RAW MATERIALS, CONSUMABLES AND SUPPLIES

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Copper	t	1.042,60	998,6	1.232,90	1.079,40	1.026,60	1.148,30	1.144,70	1.138,60	1515,40
Copper / sales	t / €	10,43	10,41	10,73	8,87	7,17	7,7	6,58	7,18	8,35
Copper / PT	t / day								0,019655092	0,020182596
Plastic granulate (incl. cleaning granulate)	t	342,8	398,3	375,2	206,4	321,6	455,4	473	525,5	351,56
Plastic granulate / sales	t / €	3,43	4,15	3,26	1,7	2,25	3,05	2,72	3,31	1,94
Plastic granulate / PT	t / day								0,009071448	0,004682125
Iron	t	162,2	195,1	196,6	236,2	450,3	506,2	393,5	447,8	530,61
Iron / turnover	t / €	1,62	2,03	1,71	1,94	3,14	3,39	2,26	2,82	0,21
Iron / PT	t / day								0,007730151	0,007066852
Copying paper	t	4,82	4,11	5,11	4,64	4,87	4	3	4	4,00
Copying paper / sales	t / €	0,0482	0,0428	0,0445	0,0404	0,0424	0,0268	0,0172	0,0252	0,0016
Copying paper / PT	t / day								0,00006905	0,00005327
Aluminium	t	1,69	1,06	1,17	0,32	0	0	0,53	0	0
Aluminium / sales	t / €	0,0169	0,011	0,0101	0,0026	0	0	0,0031	0	0
Aluminium / PT	t / day								0	0
Solder	t	1,44	0,9	0,75	0,79	1,21	0,69	0,78	1,28	0,59
Solder / sales	t / €	0,0144	0,0093	0,0065	0,0068	0,0105	0,0046	0,0045	0,008	0,0002
Solder / PT	t / day								0,00002210	0,00000779

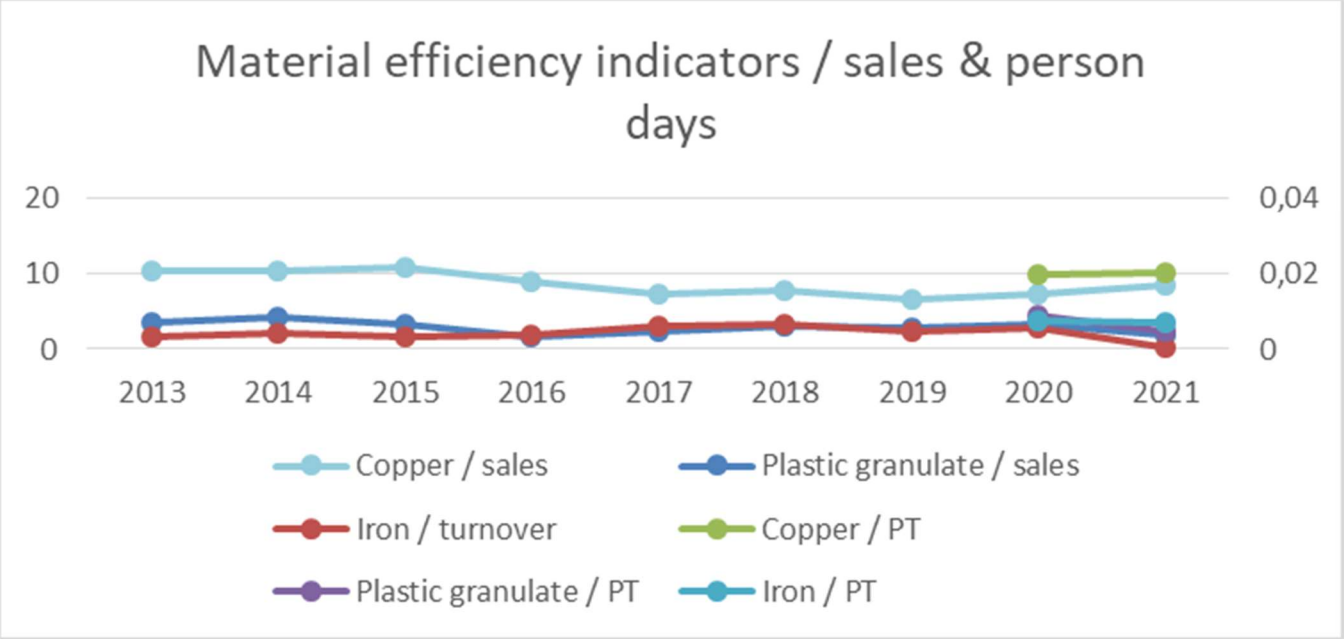

FIGURE 11: KEY MATERIAL EFFICIENCY INDICATORS (COPPER, IRON, PLASTIC GRANULES)

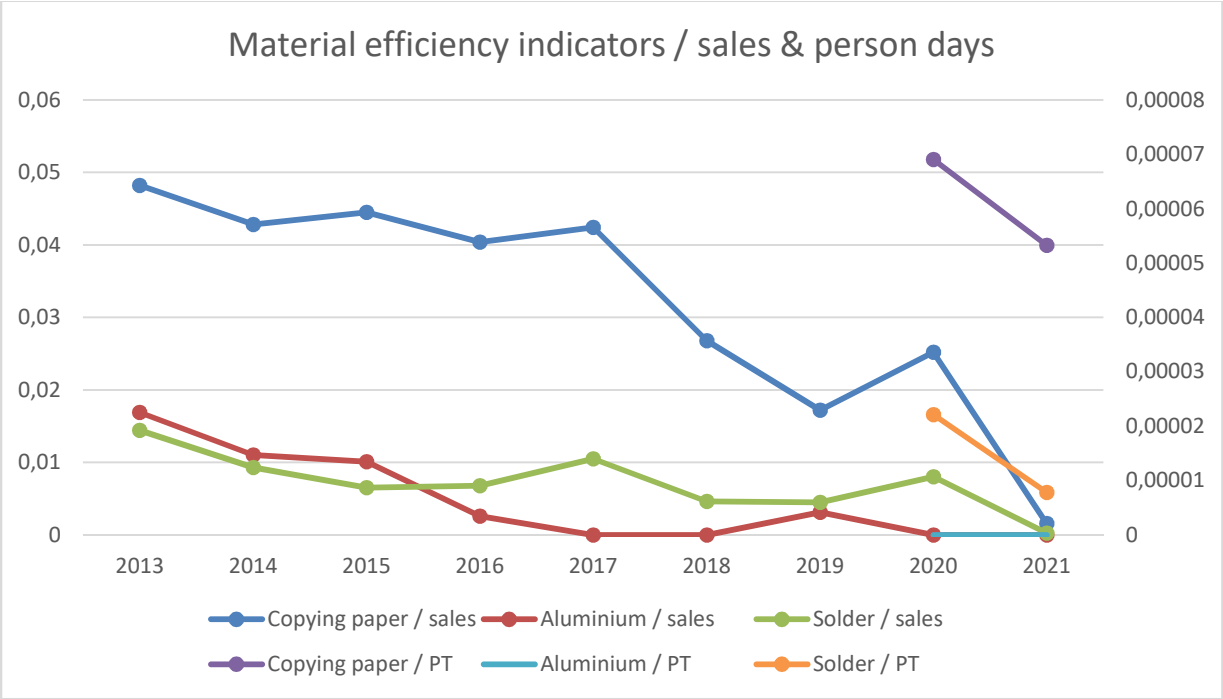

FIGURE 12: OTHER MATERIAL EFFICIENCY INDICATORS

The company's largest input in terms of volume is copper strip, whose material efficiency indicator remained almost the same until 2015, fell in 2016 and 2017, and rose again moderately in 2018. Copper strips are an essential technical component in our products.

Aluminium is used in the form of strips as well as plates in the company for fixture construction and the input therefore fluctuates depending on the need for tools and fixtures.

Iron is mainly used in the actuator sector.

The core indicators for plastic granulate show a positive development.

The auxiliary material printer paper shows a decreasing demand, which came about due to measures introduced such as double-sided printing and digitalisation.

Solder is indispensable for production in the company and is therefore one of the most important auxiliary materials. However, due to the relocation of some soldering processes and the introduction of pressure welding, this indicator fell over the years under review.

7.4 WASTE AREA

TABLE 7: DATA ON WASTE

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Waste										
Mixed municipal waste (t)	t	130,68	118,02	128,04	70,44	67,39	51,47	33,22	33,07	29,50
Mixed municipal waste / sales (t/€)	t / €	1,31	1,23	1,11	0,58	0,47	0,35	0,19	0,21	0,16
Mixed municipal waste / PT	t / day								0,00057087	0,00039289
Mixed paper	t	29,90	22,98	22,42	23,47	26,42	26,11	21,44	25,74	23,87
Mixed paper / sales	t / €	0,30	0,24	0,20	0,19	0,18	0,18	0,12	0,16	0,13
Mixed paper / sales	t / day								0,00044434	0,00031791
Wood	t	5,86	0,00	3,04	6,52	25,05	34,06	47,98	26,06	20,03
Wood / sales	t / €	0,06	0,00	0,03	0,05	0,17	0,23	0,28	0,16	0,11
Wood / PT	t / day								0,00044986	0,00026677
Plastics	t	0,00	0,00	7,54	72,69	71,65	54,95	49,83	75,19	26,18
Plastics / sales	t / €	0,00	0,00	0,07	0,60	0,50	0,37	0,29	0,47	0,14
Plastics / PT	t / day								0,00129797	0,00034867
Plastics for recycling	t						6,07	22,67	45,36	43,23
Plastics for recycling / sales	t / €						0,04	0,13	0,29	0,24
Plastics for recycling / PT	t / day								0,00078303	0,00057581
Old electronics	t	1,33	2,23	0,87	2,39	4,82	4,80	3,92	5,69	3,11
Old electronics / sales	t / €	0,01	0,02	0,01	0,02	0,03	0,03	0,02	0,04	0,02
Old electronics /PT	t / day								0,00009822	0,00004137
Other	t	0,30	2,99	0,39	2,00	1,50	0,07	0,00	0,00	0,00
Other / sales	t / €	0,00	0,03	0,00	0,02	0,01	0,00	0,00	0,00	0,00
Other / PT	t / day								0,00	0,00

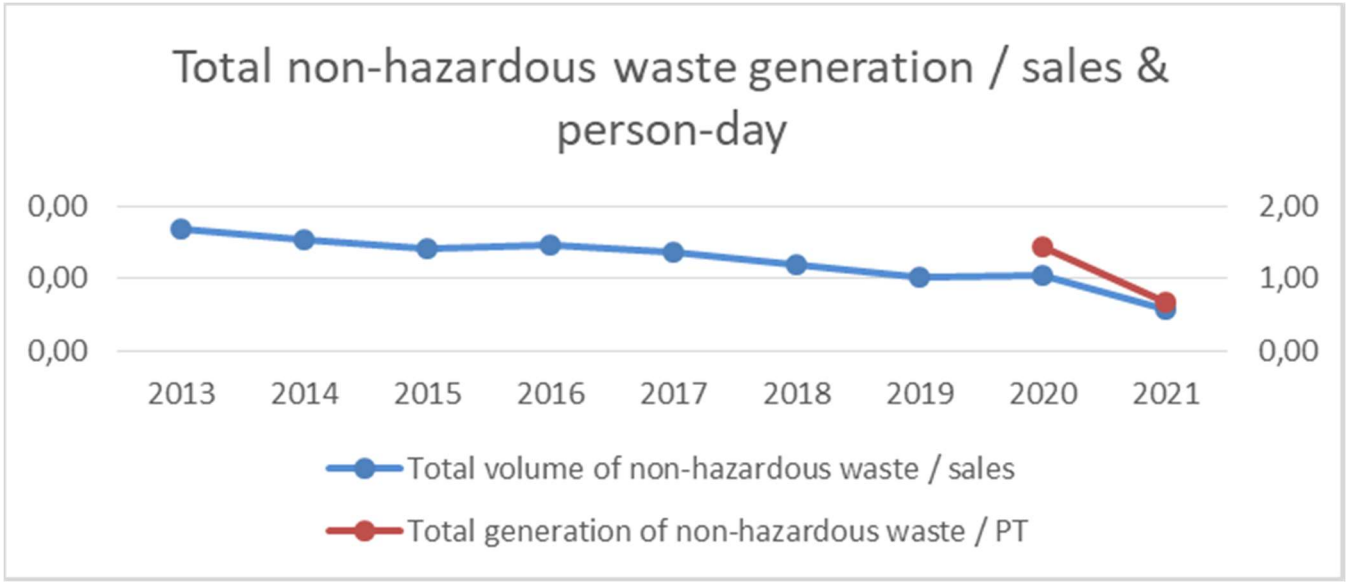

FIGURE 13: NON-HAZARDOUS WASTE / SALES

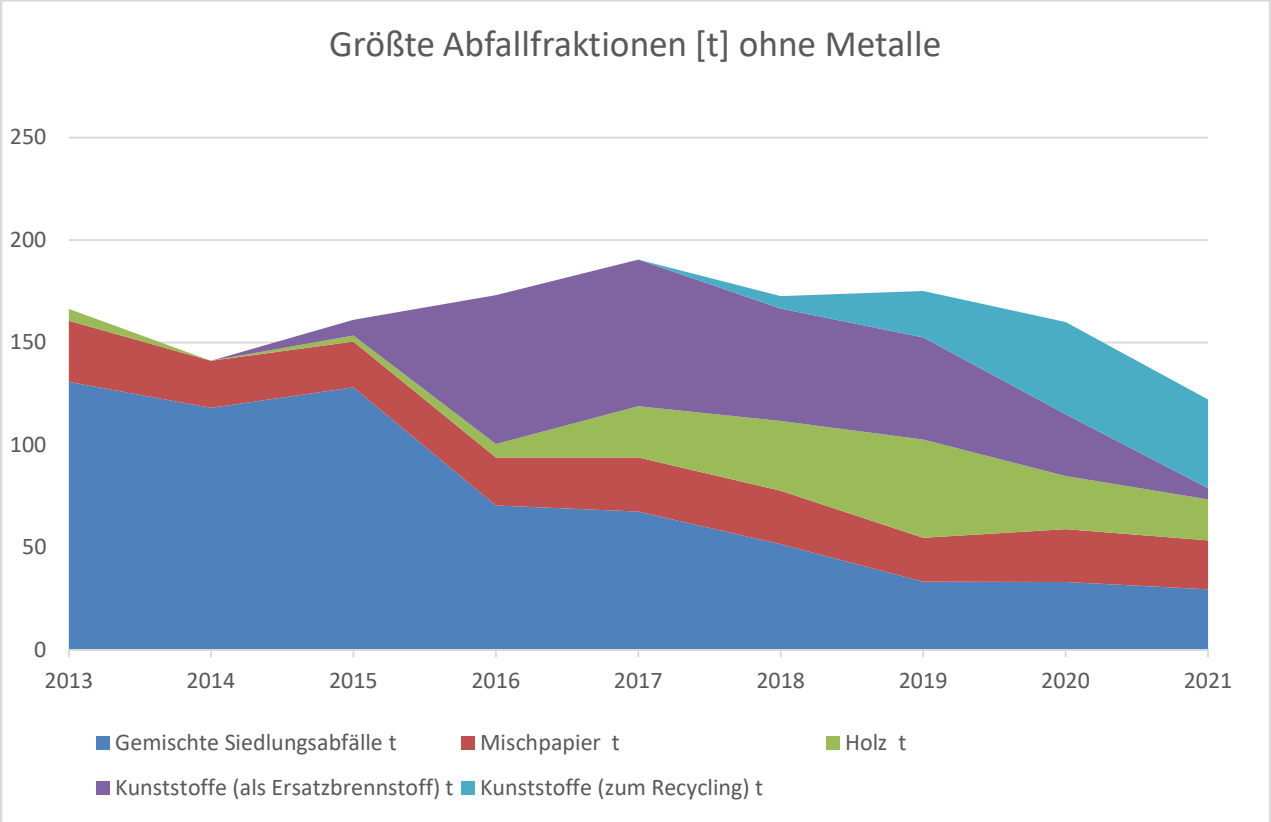

FIGURE 14: QUANTITIES OF NON-HAZARDOUS

Since our metal waste is a valuable secondary raw material, it is not listed here.

Since the end of 2015, plastics have been collected separately in the production areas and used as a substitute fuel for energy recovery. Since 2018, plastic waste has also been partially collected by type and sold for recycling.

The fraction of mixed municipal waste is waste similar to household waste from all areas of our company. The corresponding core indicator has decreased significantly over the years.

Over the years, a decreasing and thus positive trend can be seen, especially in the fraction of mixed municipal waste.

The core indicators of hazardous waste are listed in the following table.

In the case of hazardous waste, there were fluctuations in many areas over the years under review due to the relocation of the corresponding production areas to our plants abroad as well as clean-up campaigns.

TABLE 8: HAZARDOUS WASTE DATA

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total volume of hazardous waste	t	7,655	5,221	7	1,9	9,614	2,507	5,912	5,447	4,00
Total hazardous waste generation /	t / €	0,077	0,054	0,061	0,016	0,067	0,017	0,034	0,034	0,02
Total hazardous waste generation /		0,021	0,014	0,018	0,005	0,025	0,007	0,015	0,014	0,01
Total hazardous waste generation / PT	t / day								0,00009	0,00005

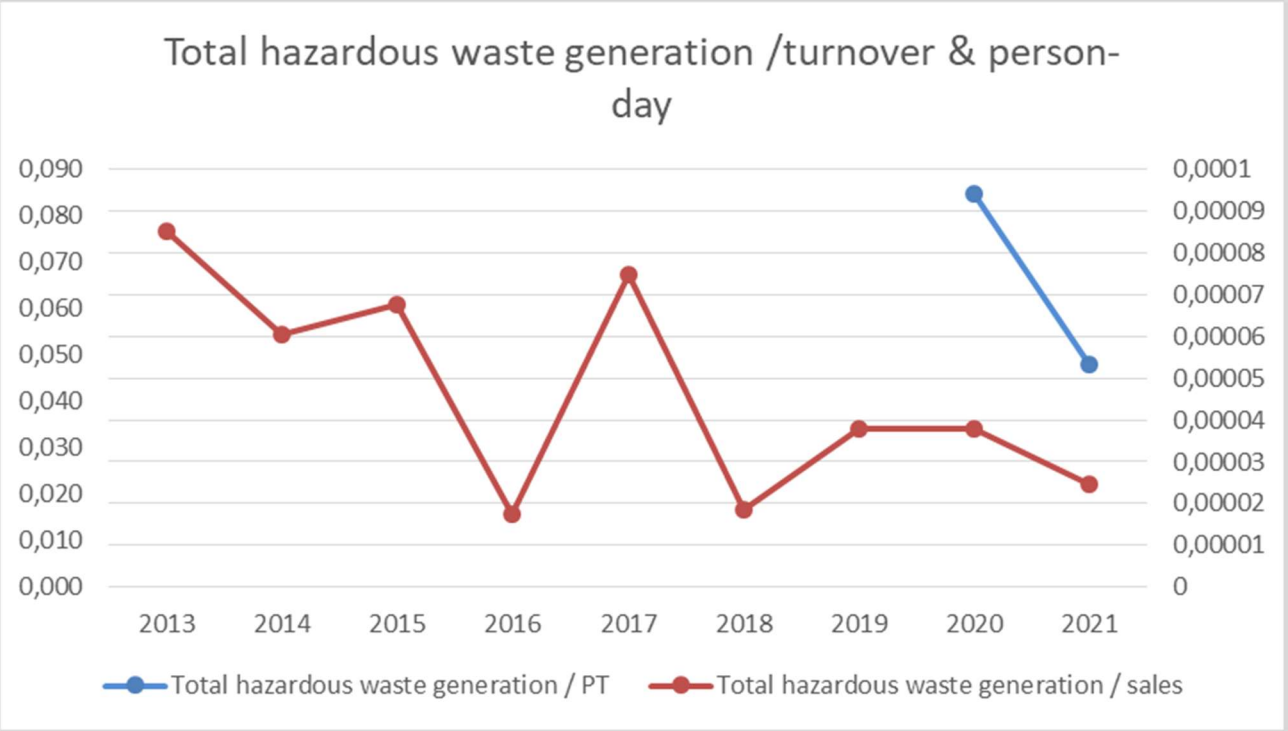

FIGURE 15: DANGEROUS WASTE / SALES

7.5 BIODIVERSITY

TABLE 9: BIODIVERSITY DATA

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total area	m²	22.271,00	22.271,00	22.271,00	22.271,00	22.271,00	25.974,00	25.974,00	26.985,00	28.183,00	25.913,20
Built-up area	m²	15.833,00	15.833,00	15.833,00	15.833,00	15.833,00	16.653,00	16.653,00	16.903,00	17.202,00	10.471,00
Built-up area as a percendaye of total	%	0,71	0,71	0,71	0,71	0,71	0,64	0,64	0,63	0,61	
Built-up area/ sales	m² / €	158,33	164,99	137,79	130,15	110,52	111,67	95,71	106,62	94,75	
Built-up area/ PT	m² / day								0,29	0,23	
Built-up area as a percendaye of total		0,71	0,74	0,62	0,58	0,50	0,43	0,37	0,40	0,34	
Built-up area as a percendaye of total		0,44	0,45	0,36	0,32	0,28	0,29	0,24	0,27	0,23	
Additional sealed area	m²	6.377,00	6.377,00	6.377,00	6.377,00	6.377,00	7.092,00	7.092,00	7.283,00	7.283,00	
Built-up and sealed area as a	%	1,00	1,00	1,00	1,00	1,00	0,91	0,91	0,90	0,87	

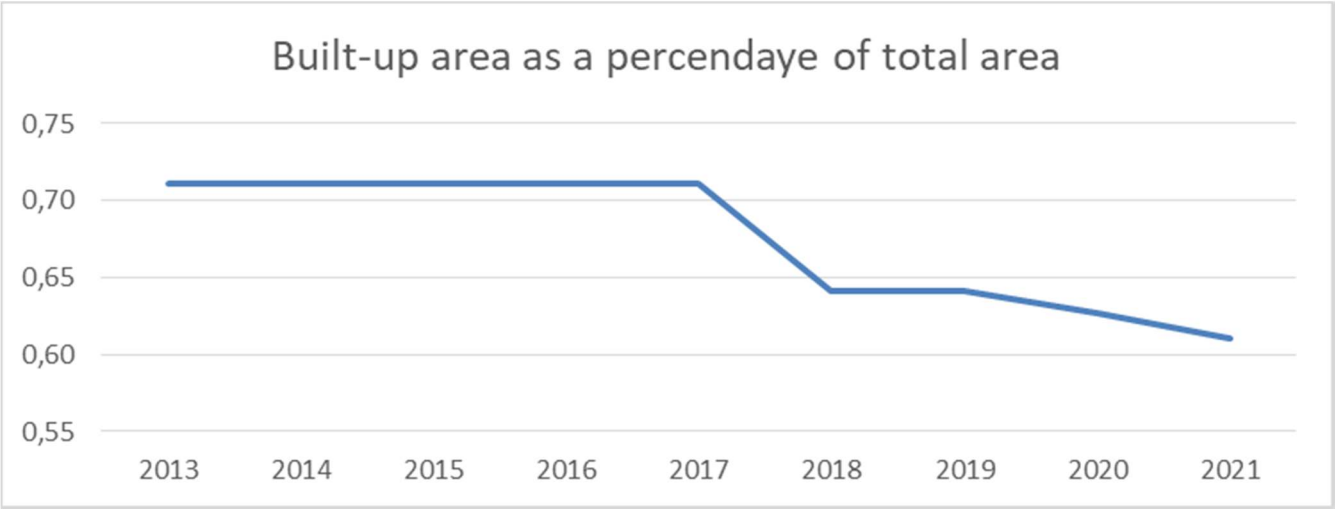

FIGURE 16: PROPORTION OF BUILT-UP AREA

In order to measure the impact on biodiversity, sealing is used as a central indicator. For this purpose, the total built-up area is considered on the one hand, and the proportion of the built-up area to the total area of the property on the other.

In order to create building opportunities for the further planned growth, plots of land with existing buildings in the vicinity were acquired in 2018.

A neighbouring built-up plot was also added in 2020. As a result, the proportion of built-up area fell to 62.6% compared to 64.1% in the previous year.

7.6 EMISSIONS AREA

The emissions were calculated using the GEMIS database based on the recorded consumption of heating oil, gas, diesel, LPG, refrigerant and electricity and are shown in the table below.

TABLE 10: DATA ON EMISSIONS

Key indicators	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
Emissions	GEMIS-Datenbank 4.93									
CO2	t	1515,07	1504,56	1478,42	1682,27	1453,35	115,57	127,11	94,00	169,73
CO2 / sales	t / €	15,15	15,68	12,87	13,83	10,15	0,77	0,73	0,59	0,93
CO2 / PT	t / day								0,0016	0,0023
NOX	kg	989,30	1003,29	1062,77	1102,97	1027,43	76,19	81,41	56,00	89,59
NOX / sales	kg / €	9,89	10,45	9,25	9,07	7,17	0,51	0,47	0,35	0,49
NOX / PT									0,0010	0,0012
SO2	kg	1684,64	1729,27	1804,42	1874,06	1782,65	1,33	12,73	3,13	25,60
SO2 / sales	kg / €	16,85	18,02	15,70	15,41	12,44	0,01	0,07	0,02	0,14
SO2 / PT	kg / day								0,00005	0,00034
PM	kg	123,16	124,72	131,64	136,51	128,09	6,04	7,47	4,75	9,52
PM10 / sales	kg / €	1,23	1,30	1,15	1,12	0,89	0,04	0,04	0,03	0,05
PM10 / PT									0,00008	0,00013

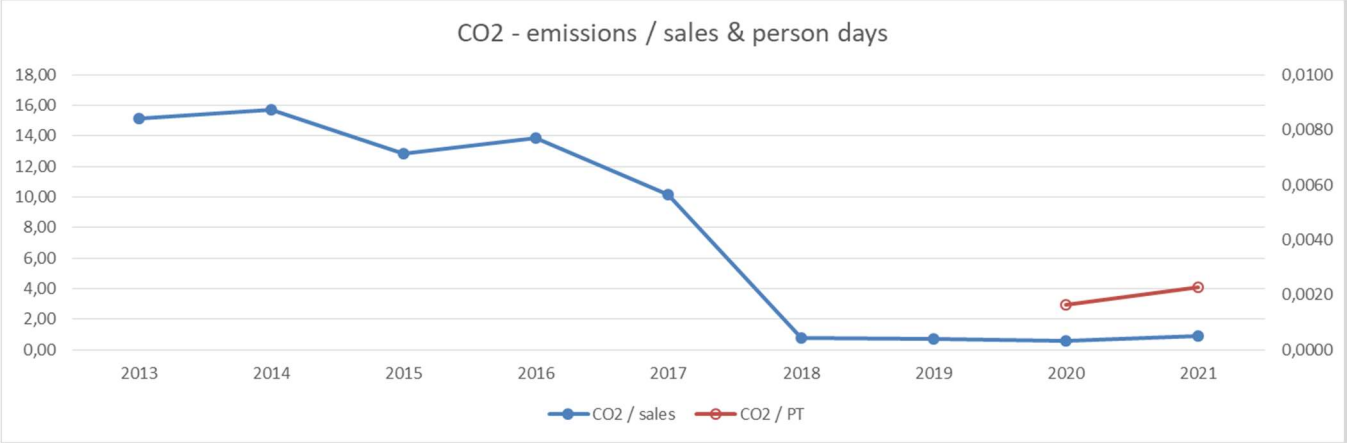

FIGURE 17: CO2 EMISSION / SALES

In 2018, an electricity tariff was selected in which the electricity is generated emission-free from 100% renewable energies. As a result, emissions were reduced very significantly.

In 2021, emissions were slightly higher than in the previous year, which is also due to the renewed increase in heating and travel demand following the Corona Conditional Restrictions 2020.

In 2021, a 90% reduction in CO2 emissions was achieved at the site compared to the start year 2013.

8 LEGAL BACKGROUND

Gruner undertakes to comply with all environmental law requirements as a minimum standard. The relevant environmental regulations for the site introducing EMAS have been identified and are listed in a legal register. The legal register can be accessed and is kept up to date by the UMB.

Compliance with environmental regulations is checked as part of the internal audits.

The up-to-dateness of the legal regulations is constantly ensured by the online tool of the website umwelt-online.de. For the respective intersections of the laws with the activities in our company, we also keep an internal list with the responsibilities for the affected areas.

9 CONTACT PERSON

Do you have any further questions, suggestions or criticism regarding our environmental statement?

Please address your requests to our Environmental Management Officer:

Mr. Christian Hagen

E-Mail: christian.hagen@gruner.de

Further copies of this environmental statement can be requested at the following address or downloaded from our homepage:

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10 VALIDITY DECLARATION

Validity of the German Version
The Environmental Statement is published in German and English. In the event of discrepancies, only the German version is binding and verified by EMAS environmental verifier.