

United Nations Global Compact

Harburg-Freudenberger
Maschinenbau GmbH
Communication on progress 2021

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Endorsement of the United Nations Global Compact

Harburg-Freudenberger Maschinenbau GmbH [HF] reaffirms its endorsement of the United Nations Global Compact's Ten Principles in the areas of human rights, labour standards, environmental protection and anti-corruption in 2021.

HF integrates the ten principles of the UN Global Compact into its daily activities. At the same time, the company is committed to encouraging its business partners to align their business activities with the principles of the UN Global Compact.

The HF Communication on Progress describes the measures HF is taking to continuously improve the integration of the Global Compact and its principles into its business strategy, corporate culture and daily operations.

More than ever, the main focus is on improving our daily activities, the use of resources at our sites and our production processes, as well as our products in terms of sustainability, and raising the awareness of all employees for a conscious use of natural resources. In addition, the focus is on the continuous development of our products and the development of digital solutions for our customers.

The information from the Communication on Progress is disseminated to the company's stakeholders through the company's primary communication channels.

Harburg-Freudenberger Maschinenbau GmbH Management

A handwritten signature in blue ink, appearing to read 'J. Beutelspacher'.

J. Beutelspacher

A handwritten signature in blue ink, appearing to read 'Dr. H. Rudzio'.

Dr. H. Rudzio

A handwritten signature in blue ink, appearing to read 'Dr.-Ing. J. Seevers'.

Dr.-Ing. J. Seevers

A handwritten signature in blue ink, appearing to read 'Ian Wilson'.

Ian Wilson



Organisational profile of Harburg-Freudenberger Maschinenbau GmbH

Together with the Harburg-Freudenberger Maschinenbau GmbH management company, HF GROUP is a wholly owned subsidiary of Lübeck-based L. Possehl & Co. mbH. HF supplies the rubber and plastics processing industry with a range of machines for all essential production stages – from raw material preparation to rubber processing and vulcanisation under the umbrella of Harburg-Freudenberger Maschinenbau GmbH. In addition, HF develops and produces machines and equipment for the edible oils industry.

The HF GROUP comprises three business units: HF MIXING GROUP, HF TireTech Group, HF FoodTech Group.

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Management:

Jens Beutelspacher, Dr. Holger Rudzio, Dr.-Ing. Jörn Seevers, Ian Wilson
Chair of the Supervisory Board: Dr. Joachim Brenk

Commercial Register: Hamburg Local Court, Abt. B Nr. 64651

Domicile of the company: Hamburg

VAT ID DE811151610, Tax ID 21 22 290 0900 3

Human Rights (Principle 1 + 2)

- 01 Businesses should support and respect the protection of internationally proclaimed human rights,
- 02 Businesses should be sure that they are not complicit in human rights abuses.

Harburg-Freudenberger Maschinenbau GmbH endorses and promotes compliance with the principles of the United Nations Global Compact → <https://www.unglobalcompact.org/what-is-gc/mission/principles> and respects the human rights declared by the United Nations → <https://www.ohchr.org/>

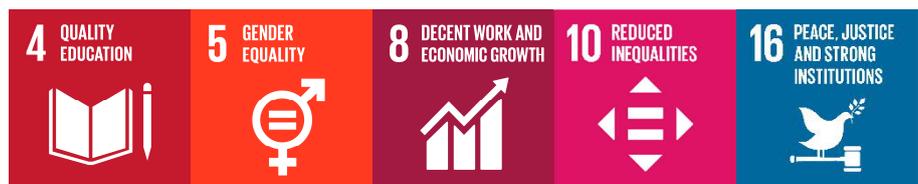
This is apparent, among other things, in the HF Code of Conduct, which reflects how the company assumes social responsibility within the scope of its activities.

With regard to the topic of human rights, we would like to share the following statement from our Code of Conduct as an example:

"No employee shall be discriminated against, i.e. disadvantaged without objective reason, because of his or her ethnic or territorial origin or affiliation, gender, age, skin colour, political opinion, sexual identity and orientation, religious conviction, social origin, physical condition, disability or other personal characteristics."

The Code of Conduct of Harburg-Freudenberger Maschinenbau GmbH provides new employees in particular with the principles of honesty and integrity when they join the company. In this way, HF ensures that the company's name, its reputation and the people who work there will continue to be empowered and protected in the future. All new employees receive the Code of Conduct when they receive the "Welcome Package" from the Human Resources Department and are additionally trained in this area and made aware of compliance with the principles of the Code of Conduct.

The existing Code of Conduct was revised in the course of 2021.



Labour Standards (Principles 3 to 6)

- 03** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- 04** the elimination of all forms of forced and compulsory labor;
- 05** the effective abolition of child labor; and
- 06** the elimination of discrimination in respect of employment and occupation.

Harburg-Freudenberger Maschinenbau GmbH recognises the freedom of association and the right to collective bargaining; employees are permitted to participate in (warning) strikes. In the interests of its employees, HF ensures compliance with applicable laws and regulations, collective agreements and company agreements. A works council has been established in the company for years and the Works Constitution Act in Germany grants it co-determination or participation in social and personnel matters.

HF is bound by collective agreements (IG Metall) and offers its employees flexible working hours, collectively agreed special remuneration such as Christmas and holiday bonuses as well as non-tariff payments.

HF ensures equal pay through the reform of collective wage agreements (ERA). Under ERA, jobs, not employees, are grouped into the appropriate pay scale groups, which counteracts discrimination. The previously prepared job description is used when recruiting or reassigning staff, regardless of age, gender identification or actual qualifications.

HF is a globally active network of companies with people of the most diverse origins, religious beliefs and skin colours. No one is discriminated against or disadvantaged because of their race, gender identification, religious beliefs, skin colour, origin, mental or physical disability, age or sexual orientation or other personal traits. Diversity is part of everyday life at HF.

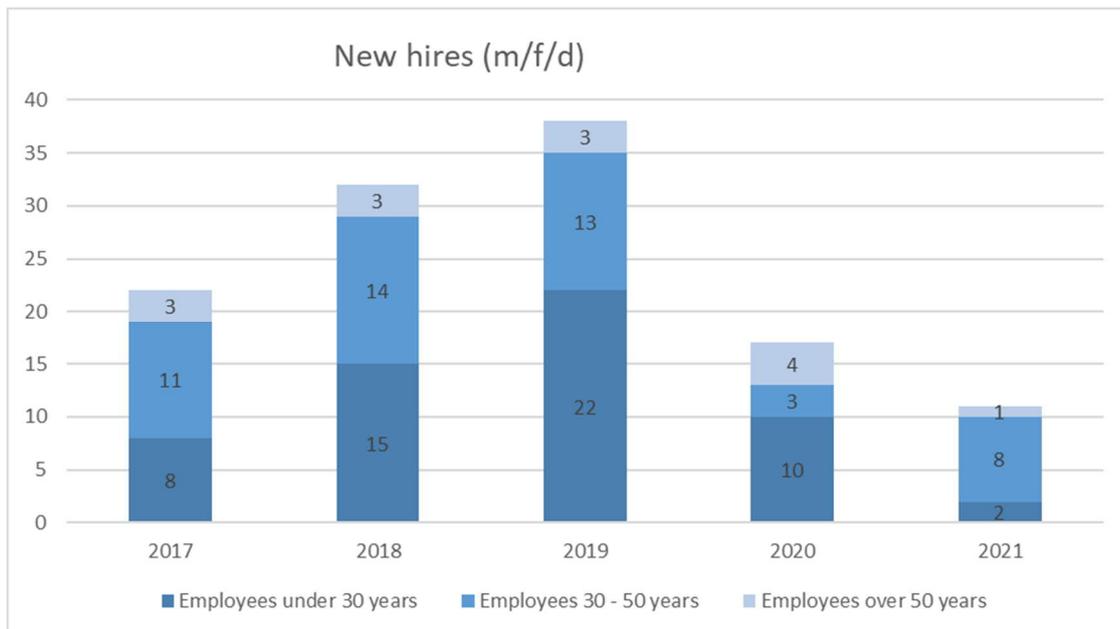
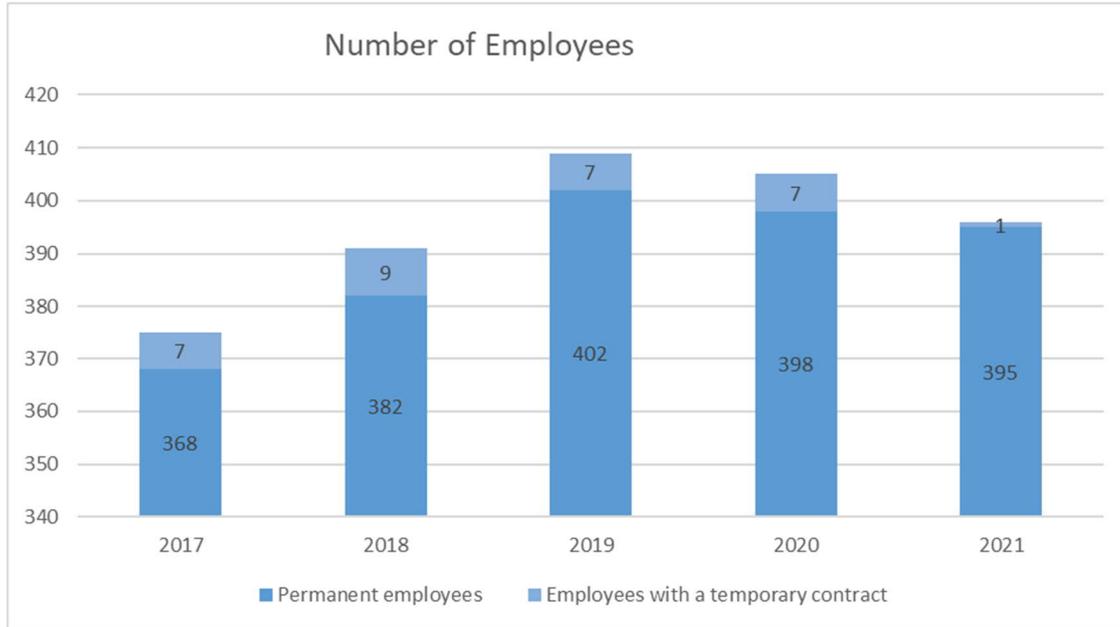
Harburg-Freudenberger Maschinenbau GmbH rejects child labour and advocates the abolition of all forms of forced labour.

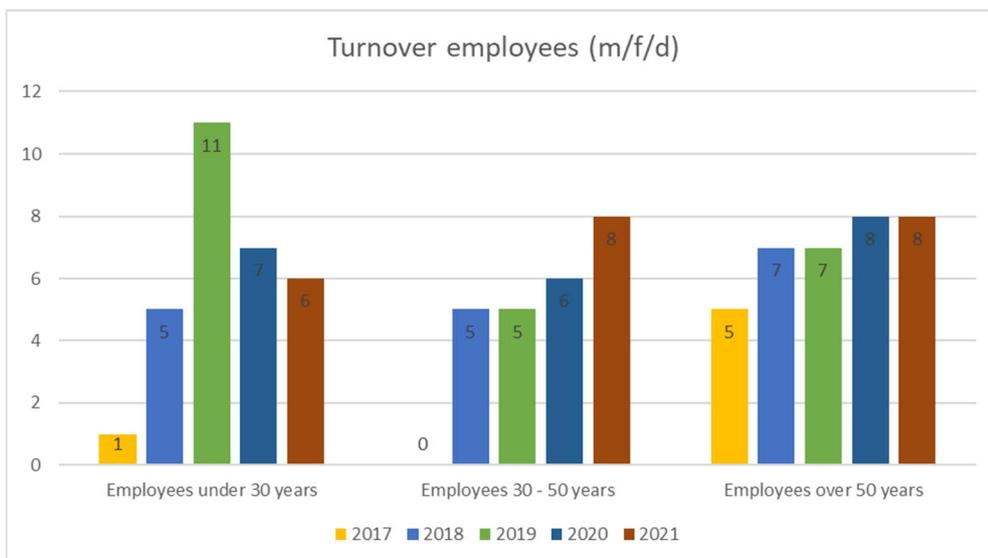
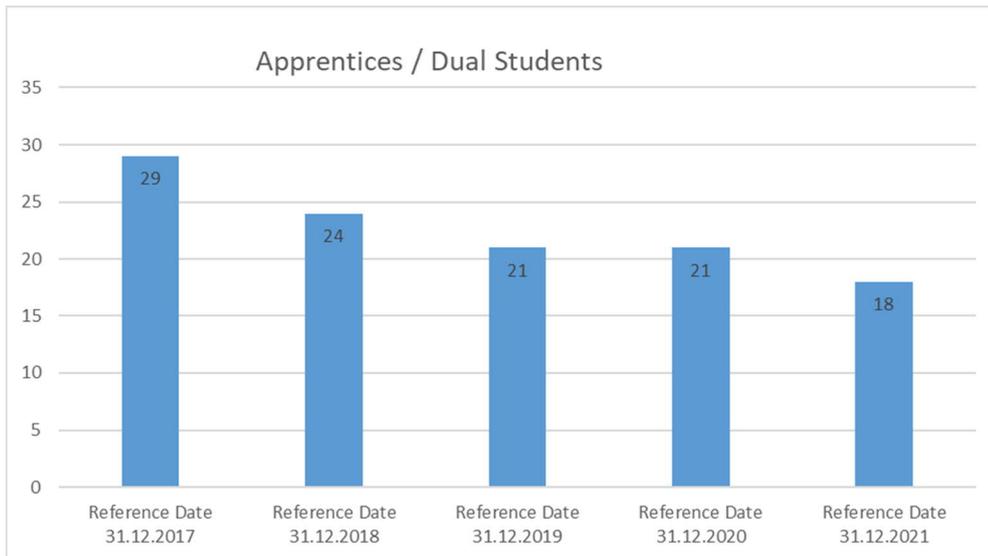
HF has been using original Kyocera toners for years and offsets an average of 1.5 tons of CO₂ equivalent per year. The offsetting takes place via the myclimate Gold Standard carbon offset project "Efficient Cookers for Kenya". This project ensures that women can afford efficient stoves through community savings and loan associations. As a result, not only is less firewood consumed in rural communities in western Kenya, resulting in reduced CO₂ emissions, but the financial and social independence of women is also strengthened. You can read about the other positive effects of the project at www.myclimate.org .



Harburg-Freudenberger Maschinenbau GmbH and its workforce

Personnel development at the Freudenberg site in figures





The second year of the Corona pandemic also required special measures to protect all employees and thus a rapid response to constantly changing conditions and legal requirements.

To protect the health of its employees, HF took compliance with the home office obligation very seriously. Wherever possible, employees have worked from home. Office occupancy was in accordance with the official minimum space requirements - at times even exceeding them - so that all persons present were able to use their own office space.

The company provided employees with sufficient protective masks and two weekly self-tests. In cases where Corona was suspected, large-scale testing was carried out as quickly as possible in order to reduce the risk in the workplace.

The introduction of “3G” regulations in the workplace has also been consistently implemented. Supervisors and employees were regularly informed of changes to internal measures on the intranet and on the bulletin board.

The positive experiences from 2020 with regard to digital work were consolidated last year. Meetings were held almost exclusively via Microsoft Teams, which facilitated collaboration with colleagues from our international sites in particular. Visits to other locations were very much reduced.

In addition, Corona vaccinations and flu shots were offered to the workforce in cooperation with the Occupational Health Center.

In the middle of the year, physiotherapy treatments could be resumed in the company. Similarly, the company gym was reopened in the summer of 2021, taking into account the applicable protective measures. Particularly in the Corona period, these are important offers for the employees to balance out their work and stay fit.

The HF team also successfully participated in the first "Stadtradeln" (city cycling) event in Freudenberg. The aim of the "Stadtradeln" campaign is to make as many everyday journeys as possible by climate-friendly bicycle. This includes not only commuting to and from work, but also all journeys made by bicycle, including leisure and vacation cycling trips. All participants have thus made an active contribution to climate protection.





Strategy and Projects

For the first time, we conducted a group-wide employee satisfaction survey. This covered a wide range of areas, including mobile working and internal communications.

The results were used to identify potential for improvement and thus improve employee satisfaction through concrete measures. Leadership training sessions were held in this regard, defining specific measures to respond to weaker areas.

Conducting the survey on an annual basis will provide information on the development of the various aspects. An important focus here is good and consistent communication as the basis for satisfied employees and a successful company. Therefore, the implementation of the "HFMG Communication Strategy" project was particularly important in 2021. This is a component of "Strategy 2023", which was launched at the end of 2018.

The communication strategy provides both supervisors and employees with important foundations for goal-oriented communication. For example, basic communication guidelines have been created for various communication channels. A communication matrix also regulates which topics management communicates to employees and at what intervals so that they feel optimally informed about company developments. The success of the communication strategy is measured as part of the 2022 employee survey.



Staff in Hamburg

With the move into the new building in fall 2020, HF Hamburg has introduced an office concept that does not require individually assigned office workstations. The new, flexible office concept includes, among other things, that all employees have a notebook and a smartphone as well as access to a modern IT infrastructure and software landscape in order to be able to work from any location and at any time. HF is thus following the trend toward greater flexibility in the world of work and expects to sustainably increase both its innovative strength and its attractiveness as an employer. This flexible working concept, as well as equipping all employees* with the latest communication media, meant that HF was able to switch quickly and smoothly to flexible working outside the company building during the Covid pandemic.

The "HF Academy" for individual, digital training of HF employees, also introduced in 2020, has been well received. This format also made a successful contribution to keeping internal processes moving during the pandemic.

Our Quality Standard

HF is certified according to ISO 9001:2015 at the Freudenberg site [HF-F]...



... and was successfully recertified in June 2021.

Occupational health and safety documentation at the Freudenberg Site

Harburg-Freudenberger Maschinenbau GmbH cares about the health and safety of its employees. One component to make working conditions even safer for the workforce is the publication of the ABEG operational safety portal at the Freudenberg site in summer 2020.

This is a SharePoint communication website where all staff members have reading rights. ABEG stands for the thematic blocks: **A**rbeitsschutz, **B**randschutz, **E**rste Hilfe, und **G**efahrstoffe (Occupational health and safety, fire safety, first aid and hazardous materials).

In May and June 2021, managers were trained on the topics of responsibility in occupational safety, transfer of duties, and environmental and energy targets. Thus, the importance of these topics was emphasized and subsequently the instructions for the employees were carefully carried out. The instruction rate was thus increased from 78% to 93%.

Accident history in Freudenberg

Digital reporting of accidents (reportable accidents, first aid cases and near misses) via the ABEG operational safety portal enables prompt, consistent and clear recording, analysis and evaluation of accidents.

	2018	2019	2020	2021
# of Lost Time Cases	8	16	5	14
# of Lost Time Days	65	296	56	181
# of First Aid Cases	185	167	101	52
# of Near Misses	-	-	1	3
Lost Time Frequency Rate	15	29	9	27
Lost Time Severity Rate	121	539	105	322
First Aid Rate	345	304	190	100
Near Miss Rate	-	-	2	6
Explanation: calculation of rates: # of cases *1.000.000 / # of total working hours				

Number of accidents and lost days, and accident rates 2018 - 2021

The number of occupational accidents and lost days is shown monthly in the QSHE report and listed in HR reporting. In addition, the overall evaluation from the Freudenberg site is shown on the Manufacturing SharePoint and in Qlik reporting.

The analysis of accident occurrence shows that cuts to the hands/fingers continue to represent by far the most injuries. Compared to the previous year, injuries have been reduced, however, approximately 30% of all reports are still due to cuts to hands.

Furthermore, about 20% of all cases are documented to bruises and contusions on various body parts and about 10% are due to abrasions on various body parts.

In order to continuously sensitize employees to various safety topics, notices such as the "Danger Point of the Month" will continue to be communicated to all employees and training/instructions will be carried out.

Implementation and documentation of instructions at Freudenberg site

With the central provision of instruction documents in the ABEG operational safety portal, the quality of the annual safety instructions could be improved. In the general basic instruction, environmental and energy topics were explained in addition to the classic safety topics and the topic of emergency management was also covered. This instruction template is regularly updated and thus always kept up to date.

The CAPS software is used to document the instructions. In the future, this will ensure that supervisors receive a reminder email when the instruction is due and that the instructions are thus carried out on time.

The following overview shows the determined instruction rate, which relates the required instructions to the instructions that have been carried out:



HSE Training Rate

Emergency management at Hf in Freudenberg

The fire protection regulations with Parts A (notice), Part B (for all employees) and Part C (for fire protection assistants) were updated in 2020 and filed in the ABEG portal for all employees. No changes were made here in 2021.

The current notices for fire protection helpers and also for first aiders are in the ABEG portal and also as notices on the bulletin boards.

Review of the year 2020

The fire safety officer, together with the fire safety helpers, had conducted two exchanges of experience and had carried out a number of inspections in the various areas. This had resulted in three main areas of action:

- 1.) An evacuation drill should be conducted annually. Since this was new for the employees, it should be announced in advance and the seriousness of the measure should be pointed out. The feasibility of emergency alerting via megaphone should be investigated.
- 2.) Training of fire safety officers was still pending and should be done in a timely manner.
- 3.) Some of the refresher training for fire prevention officers was overdue. Training must now be conducted every 5 years under the new guidelines.

Implementation in 2021

In the fall of 2021, a new fire protection officer was trained at Dekra Akademie GmbH in Siegen and commissioned in writing on 01.10.2021.

The fire protection assistant courses took place in May and June 2021. A total of 22 employees were trained in 2 courses. In addition to the theoretical training, practical training also took place. Here, the extinguishing of a wastebasket fire was simulated on the fire trainer and the extinguishing of a control cabinet fire was rehearsed in teamwork. The demonstration of a spray can fire formed the explosive conclusion.

First aiders also received further training in the first half of 2021. Here, additional employees were recruited, so that a total of 47 participants were to receive the training. Due to hygiene regulations in connection with the corona pandemic, the practical exercises could not take place as usual, but were nevertheless carried out to a limited extent.

The fire safety regulations with parts A (notice), part B (for the entire staff) and part C (for fire safety assistants) were updated in 2020 and filed in the ABEG portal for the entire staff.

In addition, there is also an overview of the fire safety assistants and first aiders. These are also posted on the notice boards.



Environmental Protection (Principle 7 to 9)

- 07 Businesses should support a precautionary approach to environmental challenges.
- 08 Businesses should undertake initiatives to promote greater environmental responsibility.
- 09 Businesses should encourage the development and diffusion of environmentally friendly technologies.

The Freudenberg site is certified according to DIN EN ISO 50001:2018 ...



... and DIN EN ISO 14001:2015...



... and both management systems were successfully recertified in June 2021.

With the **environmental management system** according to **DIN EN ISO 14001:2015**, HF actively protects the environment and contributes to the conservation of natural resources (soil, water, air). This is done by taking a holistic view of the effects of the products and their manufacture on the natural foundations of life. The company's environmental performance is thus continuously improved.

The conformity of the environmental management system with DIN EN ISO 14001:2015 was demonstrated during the **external audit** and **rated 1.3**.

In view of rising prices and dwindling resources worldwide, the responsible use of energy is becoming increasingly important. The growing demand for energy with limited natural resources presents everyone with the challenge of using energy as efficiently, environmentally friendly and sparingly as possible. To meet this responsibility, HF has established an energy management system at the Freudenberg site in accordance with the globally applicable **DIN EN ISO 50001:2018** standard.

Conformity of the energy management system with DIN EN ISO 50001:2018 was demonstrated during the **external audit** and **rated 1.4**.

In March 2021, the regular **internal audits** for the areas of quality, environmental and energy management were also carried out.



Environmental impacts and derived targets at HF in Freudenberg

The environmental aspects have not changed in 2021. The assessment of environmental impacts was updated in 2021. The disposal of used cooling lubricants has developed positively. Here, a considerable amount of hazardous waste could be saved by collecting and reusing the cooling lubricants. It goes without saying that the relevant regulations are complied with and the cooling lubricants are regularly inspected both internally and externally. In addition, the quantities are reduced because the used cooling lubricants are extracted directly at the main site and are not collected and disposed of in the collection tank in a rented hall together with the cleaning agent.

The environmental targets for 2021 and 2022 were set in March 2021 and are shown in the following overview. In addition, the results for 2021 have also been summarized here.



Environmental Goals 2021/22 HF Mixing Group - Freudenberg

Strategic objectives

Ensure legal compliance


Conserve resources
- save paper -
Saving forests


Reduce water consumption


Reduce waste

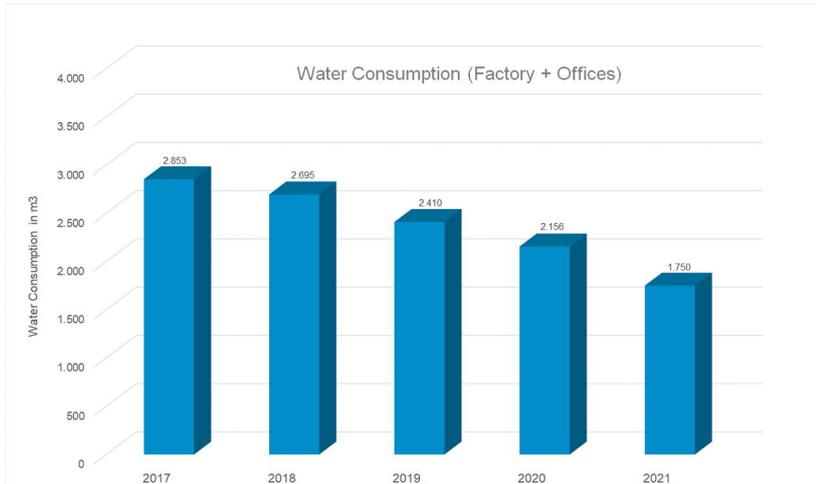

Operational objectives

#	Strategic objectives	Operational objectives	Measure	Release	Competence	Status	Date	Signature HSE
1	Ressources	Reduce paper consumption by 30%	e.g. Project Digitization - Introduction of a software (ELO) for data storage in the various departments	Hr. Rudzio 03.03.21	all	Reduction of 56% compared to the previous year (2020 230 cartons; 2021 100 cartons purchased)	23.03.22	Umbreit
2	Water consumption	Reduce fresh water consumption	MA sensitization, testing the use of water savers	Hr. Rudzio 03.03.21	HSE / Facility	Reduction by 19% (from 2156 m³ to 1750 m³, (Factory and administration, without pilot plant)	23.03.22	Umbreit
3	Reduce waste	Ensure separate collection rate of at least 90%	Minimize residual waste, optimize waste by intensively separating waste, optimize labeling of garbage cans, sensitize MA; Reduce spray cans (quick cleaners) e.B. test refillable spray cans	Hr. Rudzio 03.03.21	HSE	Separate collection rate improved from 93.02% to 95.59%; pilot project on refillable aerosol cans successful - general use from spring 2022 onwards.		Umbreit
4	all	Instruction and involvement of employees, achieving a training rate of 100%	employee training, information and qualification	Hr. Rudzio 03.03.21	HSE / Supervisor	Achievement of 93% instruction rate. (HSE Instruction: Occupational, environmental & fire protection)	23.03.22	Umbreit

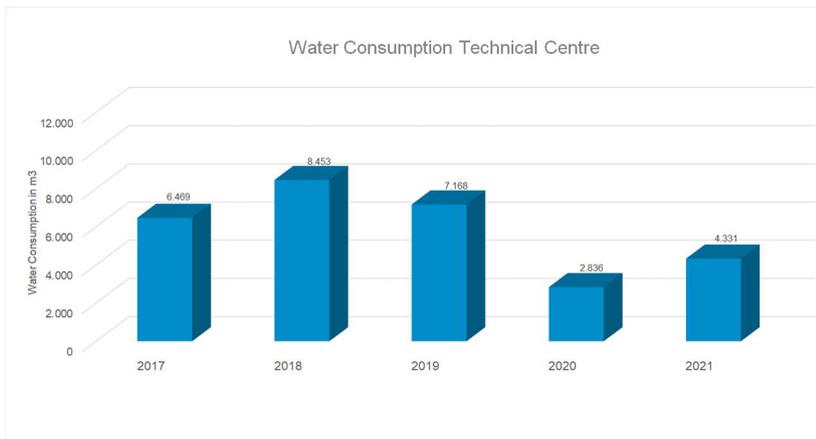
Environmental targets for 2021/2022 and results 2021

Environment and energy in figures (Freudenberg site):

Water consumption



Water consumption 2017 - 2021



Water consumption 2017 – 2021

Total water consumption increased by 1189 m³ in 2021 (6181 m³) compared to 2020 (4492 m³). While water consumption in the factory and office building area decreased due to short-time working and lower production hours, water consumption in the Technical Centre increased by almost 25%. This is due to the increased number of customer trials in the Technical Centre.

Since in general the water consumption in the pilot plant is much higher than in the rest of the factory, it may be worthwhile to investigate a possibility of water reduction, e.g. with a water recooling machine.

The wastewater results from the fresh water quantities and the surface water. The quantities of precipitation water are taken from the water charge notice issued by the town of Freudenberg and cannot be influenced.

Emissions

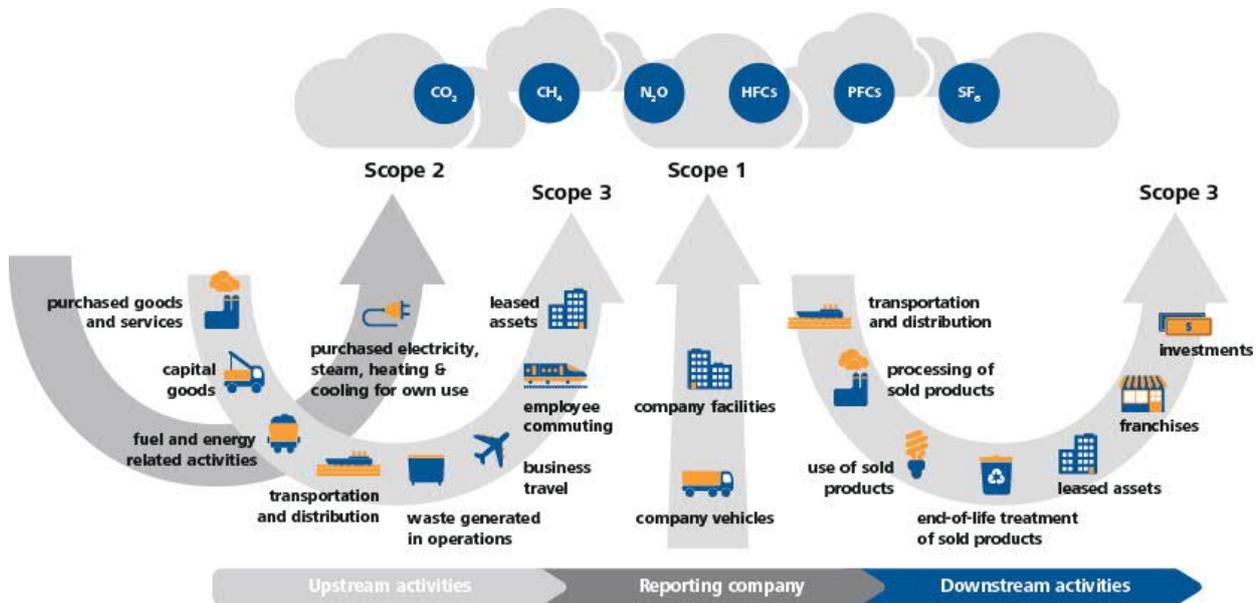
The recording of greenhouse gas emissions (GHG emissions) was fundamentally revised in 2021 and presented according to the GHG Protocol. Emissions are divided into 3 scopes:

Scope 1 comprises direct emissions within the company, e.g. from the combustion of natural gas for heating purposes.

Scope 2 includes indirect emissions, such as those caused by purchased and consumed electricity. These could be reduced by 100% in 2021 through the purchase of green electricity.

Scope 3 includes all indirect emissions from the upstream and downstream value chain, e.g. the energy consumption of rented halls or business trips by plane.

The following table shows the emissions for the years 2019 - 2021 with the data currently available. It is important to note that according to the GHG Protocol, the recording of Scope 1 & 2 emissions is mandatory, while Scope 3 emissions can be recorded voluntarily.



MIXING GROUP	HFF GHG Emission Inventory					
	2019 Energy consumption [in kWh]	2019 GHG [in t]	2020 Energy consumption [in kWh]	2020 GHG [in t]	2021 Energy consumption [in kWh]	2021 GHG [in t]
Direct GHG emissions (Scope 1) [in t]						
- Emissions from natural gas consumption at the main site [in t]	2.063.107	417	1.982.000	400	2.062.931	417
- Emissions from industrial trucks (total) [in tonnes]		22		16		16
- Emissions from company cars (pool vehicles) [in t]		42		50		42
Total GHG emissions (Scope 1) [in t]		481		466		475
Indirect GHG emissions (Scope 2) [in t]						
- Emissions from electricity consumption at the main site [in t]	1.722.417	427	1.494.000	333	1.499.386	-
Total GHG emissions (Scope 2) [in t]		427		333		-
Indirect GHG emissions (Scope 3) [in t]						
- Emissions from natural gas consumption in rented halls [in t]	1.193.937	241	918.000	186	944.014	190
- Emissions from electricity consumption in rented halls [in t]	195.011	46	226.600	50	315.594	70
- Emissions from privately used company cars [in t]		45		54		58
- Emissions from air travel [in t]		1.307		258		140
Total currently determined GHG emissions (Scope 3) [in t]		1.639		548		458
Remarks:						As of: 23.03.2022
GHG (greenhouse gas) emissions, internationally referred to as GHG (Greenhouse Gas) emissions, are recorded in 3 scopes according to the GHG Protocol.						
Scope 1: all direct emissions generated at the site, e.B. by combustion of natural gas for heating, combustion of fuel for company cars and industrial trucks						
Scope 2: indirect emissions, from electricity generated and purchased outside, steam, heat or coldness						
Scope 3: other indirect emissions from the upstream and downstream value chain, e.B. transport of goods, energy consumption of the rented halls, etc.						
Collection of data for Scope 1 & 2 is mandatory, for Scope 3 voluntary (according to GHG Protocol)						

GHG emissions according to GHG Protocol 2019 – 2021

Waste

The waste generated at the Freudenberg site in 2020 (in the main facility plus three rented halls for service, assembly and storage) amounted to 710 tonnes. These consisted of 89% non-hazardous and 11% hazardous waste. Compared to the previous year, the amount of waste has decreased by 20%, which can be attributed to the lower production hours and the low attendance hours of the employees due to the Corona pandemic. The downward trend will continue in 2021. The following overviews show the waste quantities and the waste ratio of the different waste types.

Waste fractions - Quantities in tonnes (tonnes)	2018	2019	2020	2021
Paper / Cardboard	23,94	24,78	16,079	13,862
Plastics	29,86	34,31	23,22	17,19
Metals	446,47	608,05	468,98	602,267
Wood	74,96	83,05	79,42	45,48
Biowaste	0	0,1	0,1	0
other waste fractions	3,518	2,67	0,84	2,027
Mixed waste	65,77	58,85	44,14	31,41
Non-commercial waste	69,53	83,64	77,216	19,63
Total amount of all waste (in tonnes)	714,05	895,45	710	732,07
Total amount of all municipal commercial waste (in tonnes)	644,52	811,81	632,78	712,44
Total quantity of all separately collected commercial Municipal waste (in tonnes)	578,75	752,96	588,64	681,03
Total quantity of all non-separately collected commercial Municipal waste (in tonnes)	65,77	58,85	44,14	31,41

Legend:

Paper / cardboard: ASN 150101 waste paper, ASN 200101 files

Plastics: ASN 160119 and 200139 Plastics

Metals: ASN 120101 Fe chips, ASN 120104 V2a waste and aluminium scrap; ASN 120102 steel and machine scrap, ASN 170405 long steel scrap, ASN 200140 mixed scrap, ASN 090107 industrial films

Wood: ASN 150103 Wood packaging, ASN 170201 Wood

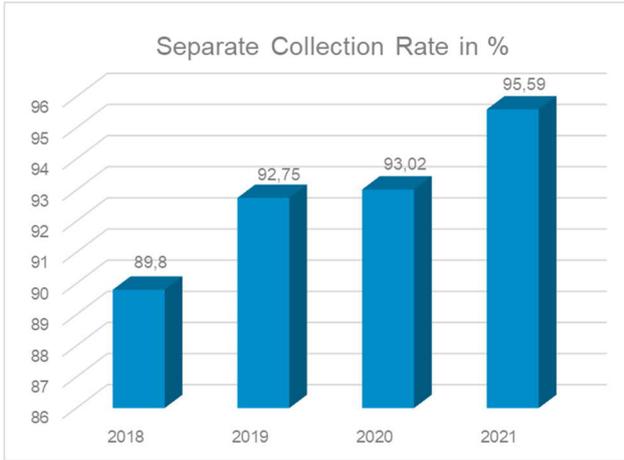
Other waste fractions: ASN 150202* absorbent and filter materials, ASN 080111* paint and varnish waste

Mixtures: ASN 200301 mixed municipal waste, ASN 150106 mixed packaging, ASN 170904 mixed construction waste

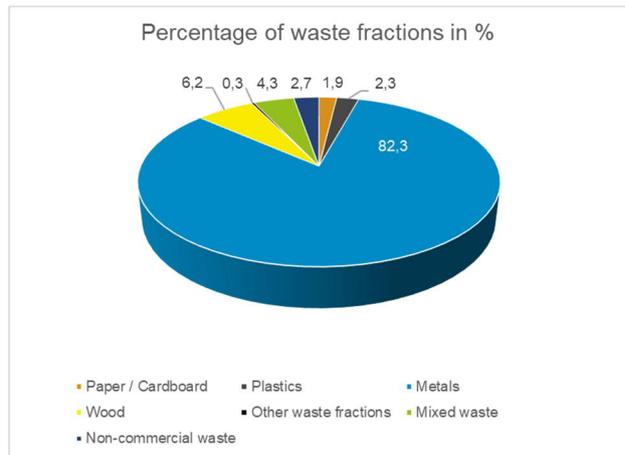
Non-wt. wastes: ASN 120109* used machining emulsion, ASN 130105* us ASN 130205* used oil, ASN 160504* pressure vessels, ASN 101009* filter dust, ASN 160508* used chemicals, ASN 120113 welding slag, ASN 120114* machining sludge, ASN 160216 motors aluminium housings, ASN 160601 lead-acid batteries, ASN 200133 accumulators/batteries, ASN 200135 e-waste.

Since the amendment of the Commercial Waste Ordinance in 2017, the separation rate has been calculated annually. This is to be above 90%. This is intended to further expand the separate collection and recycling of commercial municipal waste.

In 2021, the ratio was further improved and currently stands at 95.59%.



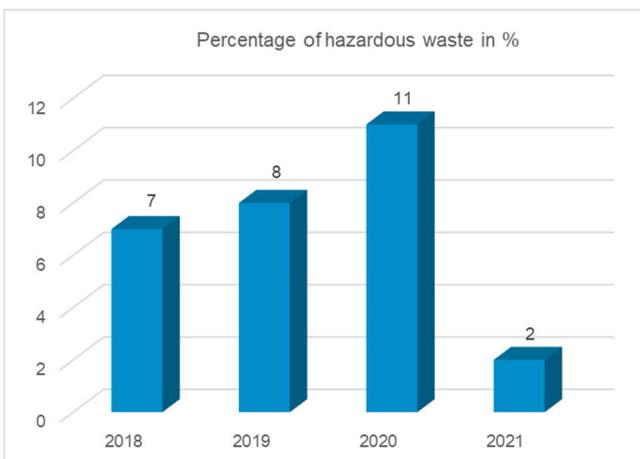
Result of the separate collection rate 2018 - 2021



Proportion of waste fractions in % in 2021

Although the total volume of waste increased slightly in 2021, positive trends can be seen. For example, the disposal of used cooling lubricants has been significantly reduced, since on the one hand the cooling lubricants are collected at the processing machines and reused, and on the other hand the disposal route has been optimized.

Since 2021, the used cooling lubricants have been extracted directly at the main site, rather than first being transported to the Klichta hall to be collected in the underground basin with the used cleaning wastewater and then disposed of in large quantities. This measure also reduced the amount of hazardous waste in 2021:



Percentage of hazardous waste

Energy

The energy targets for 2021 and 2022 were set in March 2021 and are shown in the following overview. In addition, the results for 2021 have also been summarized here.



Energy targets 2021/22 of Harburg Freudenberger Maschinenbau GmbH, Freudenberg site

Strategic objectives:

Reduction of specific energy consumption by 10% 

Use of renewable energies 

Reduction of the CO2 footprint 

Operative Ziele:

No.	Strategic objective	Operational objective	Measure	Release	In charge	Status of implementation 23.03.2022	Date	Signature EMB
1	Reduction of specific electricity consumption by 10% (from 16.5 kWh/h to 15.9 kWh/h)	Identify and analyze power consumption at key consumers	Analyze key power consumers and derive measures	Mr. Rudzio 03.03.21	all	Due to lower production hours, the specific power consumption has increased to 17.8 kWh/h	23.3.2022	Umbreit
2	Renewable energies / use of efficient methods	Construction of a combined heat and power plant (CHP) in the new administration building	Planning of the CHP for the new building, and also for the existing buildings	Mr. Rudzio 03.03.21	Facility	CHP installed, commissioning will take place in spring 2022	23.3.2022	Umbreit
3	CO2 footprint	Reduce compressed air leaks	Regular inspection of compressed air lines for leaks. EnM EnM 19-2017, 100% ensure the use of steel connectors	Mr. Rudzio 03.03.21	Facility	Leaks have been reduced, see also project Energy Scouts	23.3.2022	Umbreit
4	Reduction of energy consumption	Preparing for conversion from L-gas to H-gas, conversion in April 22	Obtain offers for the changeover, prepare for the changeover	Mr. Rudzio 03.03.21	EMB + Facility	Changeover is prepared: Switching date 05.04.22	23.3.2022	Umbreit
5	all	Instruction and involvement of employees, achieving a training rate of 100%	employee training, information and qualification	Mr. Rudzio 03.03.21	EMB + Supervisors	Achievement of 93% instruction rate (HSE Instruction: Occupational, Environmental & Fire Protection)	23.3.2022	Umbreit
6	alle	of employees	Training of energy scout, IHK offer, see EnM 06-2015	Mr. Rudzio 03.03.21	EMB + Supervisors	3 apprentices trained as energy scouts at the IHK (09/2021 - 12/2021)	23.3.2022	Umbreit

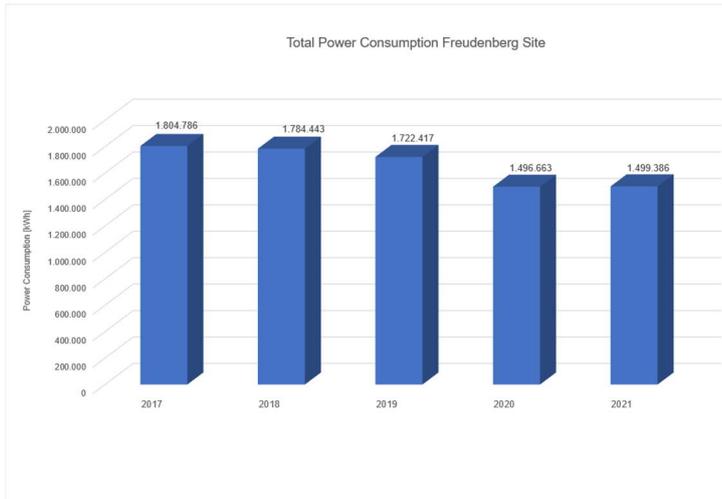
Energy targets 2021/2022 and results 2021

The energy evaluation was again prepared separately for electricity consumption and gas consumption this year and carried out according to the familiar evaluation criteria: Significance, savings potential, feasibility and financial cost.

The energy assessment was discussed and measures derived at the April 2021 energy management team meeting. The documents and minutes are stored on the SharePoint of the Integrated Management System.

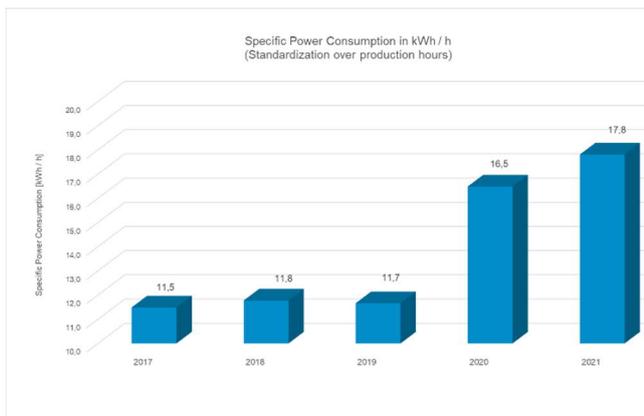
Power consumption

Absolute electricity consumption remained virtually unchanged compared with the previous year.



Annual electricity consumption in the period 2017 - 2021.

However, the specific electricity consumption (kWh/manufacturing hour) has increased again due to the low production hours.



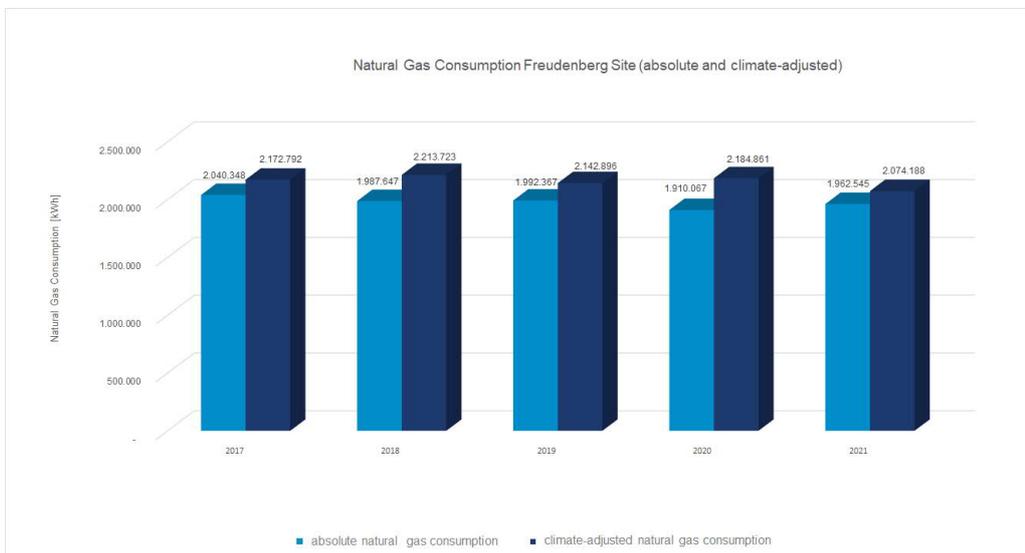
Production hours:
 2017: 157.109 h
 2018: 151.561 h,
 2019: 147.678 h,
 2020: 90.780 h,
 2021: 84.203 h
 (2020 & 2021 without cost centre 141, 142)

Specific electricity consumption in the period 2017 - 2021.

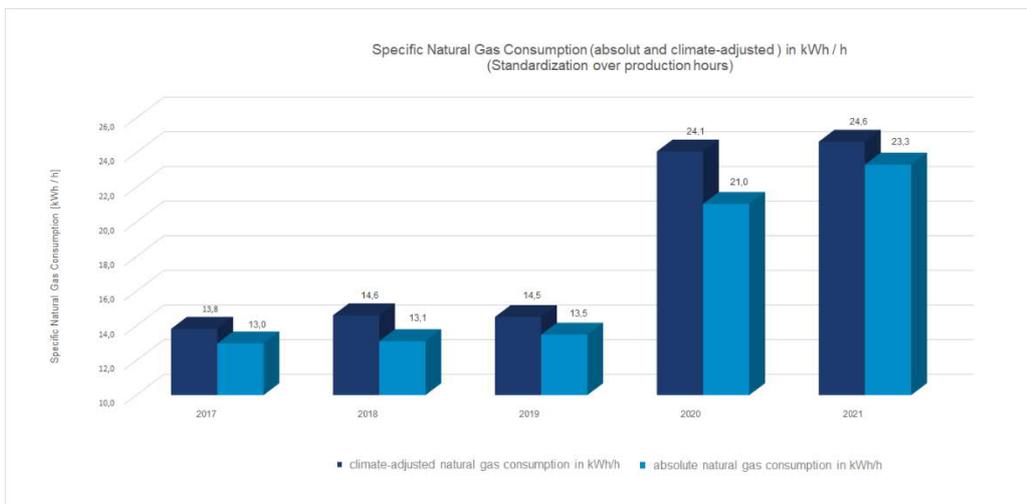
Natural gas consumption

While gas consumption for hot water supply and process heat depends exclusively on the intensity of production, gas consumption for heating the buildings depends on the weather. Consequently, this gas consumption must undergo a weather-related correction (climate adjustment).

The following diagram shows the absolute gas consumption from the main site at 60 Asdorfer Str. and the climate-adjusted value, excluding consumption from the trailing roof area. This has only been determined since October 2018.



Annual natural gas consumption in the period 2017 – 2021



Production hours:
 2017: 157.109 h
 2018: 151.561 h,
 2019: 147.678 h,
 2020: 90.780 h,
 2021: 84.203 h
 (2020 & 2021 excl. cost centre 141, 142)

Specific natural gas consumption in the period 2017 - 2021

Evaluation of environmental performance

Energy consumption (electricity and natural gas) has remained almost constant at the site. However, due to lower production hours, specific energy consumption has increased again. Manufacturing hours are expected to normalize somewhat in 2022.

Emissions were determined for the years 2019 to 2021 in accordance with the GHG Protocol. A distinction is made between Scope 1 (direct emissions), Scope 2 (indirect emissions) and Scope 3 (indirect emissions from the upstream and downstream value chain). Overall, emissions were reduced. Positive effect: in 2021, emissions in Scope 2 were completely eliminated through the purchase of green electricity.

In the area of waste management, the separate collection rate was further improved and, at almost 96%, is now well above the minimum rate of 90%.

Sustainable procurement at HF in Freudenberg

In 2021, work continued on continuous and efficient improvement of sustainability aspects in the area of procurement.

For example, each year in connection with the annual supplier evaluation, new suppliers as well as those who have not yet submitted a supplier self-disclosure in the area of corporate social responsibility are continuously contacted and evaluated accordingly in this topic area. In total, this evaluation now covers more than 200 suppliers, who are assessed by HF in terms of CSR and supported in further steps if required. This includes planning, implementing and monitoring the necessary tools and processes to enforce sustainability standards with suppliers.

The supplier assessment for 2021 was carried out by the Purchasing, Quality Management and Production departments. The evaluation of the assessment will not be available until after publication of this report.



Energy projects show positive results in HF`s production site in Belišće, Croatia

Environmental protection in Belišće, Croatia

Environmental principles and requirements are taken into account in all phases of the product life cycle in HF Belišće.

Continuous compliance with environmental regulations and the monitoring of environmental changes, constantly updated risk assessments with regard to all aspects of the environment, the improvement of environmental protection and the avoidance of environmental damage are a constant concern of the management and employees of HF Belišće.

The promotion of a proactive corporate culture and the awareness of employees for the environment as well as the implementation of training programs to inform and actively design an effective environmental management system help to continuously optimize the use of natural resources.

Energy projects of the last 5 years will continue to be consistently pursued:

- Energy savings through renovated office buildings
- Replacement of all lighting on site
- Complete conversion from gas heating to hot water ceiling heating
- Installation of a solar power plant
- Use of electric forklifts instead of gas and diesel forklifts
- Much of the steel cutting is done by underwater plasma cutting
- Replacement of the lighting to the latest generation of LED technology

So far HF Belišće`s projects have saved about 1.275 t of CO₂ per year or 43% of the previous emissions in the last 5 years. The aim is to be completely CO₂ neutral by 2030. Related to that EIHP was created Carbon Footprint Analysis Study and Proposed Measures of Greenhouse Gases Emission Reduction for the company HF Belišće. Based on that Study, the total greenhouse gas emission of HF Belišće in 2020 was equal to 880,2 t CO₂e (detail information about Emission and Measures of Greenhouse Gases Emission Reduction on page 73).

HF Belišće in figures:

Electric Energy (machine power/ lightening/ others)

CO2-t-SUM	ME	Year	MWh	Pollution coefficients	CO2 t per year
1.697	404	2013	3.605	198	714
1.798	398	2014	4.873	168	819
1.891	510	2015	4.993	203	1.014
1.730	464	2016	5.299	204	1.081
1.731	479	2017	5.798	188	1.090
1.497	519	2018	6.610	130	859
1.582	440	2019	5.880	163	958
880	286	2020	4.160	134	469
1.236	248	2021	4.331	134	579


 Green certificate for Valpovo location
 ~15% less CO2

Natural gas (heating for painting facility Belišće and Valpovo location)

Year	MWh	Pollution coefficients	CO2 t per year
2013	3.504	220	772
2014	3.466	220	763
2015	2.986	220	657
2016	1.930	220	425
2017	2.016	220	444
2018	2.064	220	454
2019	1.987	220	454
2020	1.482	220	326
2021	2.649	220	583


 New heating system with hot water


 New furnace with gas power

LPG (Gas cutting work/ forklifters)

Year	MWh	Pollution coefficients	CO2 t per year
2013	409,6	261	107
2014	576	261	150
2015	576	261	150
2016	576	261	150
2017	486,4	261	127
2018	435,2	261	114
2019	410	261	107
2020	246,7	261	64
2021	149	261	39

Diesel (forklifters)

Year	MWh	Pollution coefficients	CO2 t per year
2013	337,5	310	105
2014	212,5	310	66
2015	225	310	70
2016	237,5	310	74
2017	225	310	70
2018	225	310	70
2019	200	310	62
2020	64	310	20
2021	110	310	34

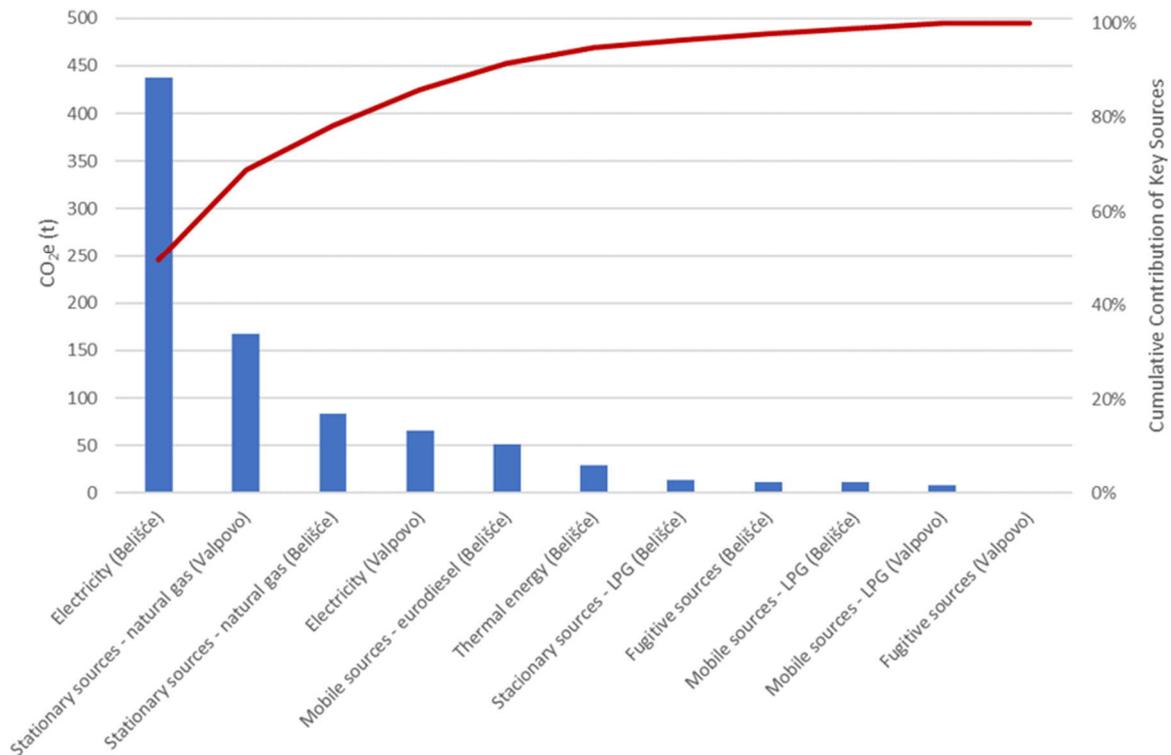


New forklifters on electric power

Scopes	Emission sources	Emission of CO ₂ e (t)
Scope 1	Stationary sources	265.0
	Mobile source	70.6
	Fugitive sources	12.6
Scope 2	Electricity	503.1
	Thermal energy	28.8
Total (Scope 1 and 2)		880.2

In addition to total emission, specific carbon footprints per employee were calculated. The specific emission per employee in 2020 was 1.75 t CO₂e/ employee (based on 504 employee).

Emission sources	Emission of CO ₂ e (t)	Share of sources (%)	Cumulative share (%)
Electricity (Belišće)	437.645	49.72	49.72
Stationary sources - natural gas (Valpovo)	168.120	19.10	68.82
Stationary sources - natural gas (Belišće)	83.561	9.49	78.31
Electricity (Valpovo)	65.453	7.44	85.75
Mobile sources - eurodiesel (Belišće)	51.013	5.80	91.54
Thermal energy (Belišće)	28.833	3.28	94.82
Stationary sources - LPG (Belišće)	13.347	1.52	96.33
Fugitive sources (Belišće)	11.260	1.28	97.61
Mobile sources - LPG (Belišće)	11.484	1.30	98.92
Mobile sources - LPG (Valpovo)	8.132	0.92	99.84
Fugitive sources (Valpovo)	1.385	0.16	100.00
Total	880.234		



Key sources of emission of HF Belišće locations

Activity plan – future steps for CO₂ neutrality:

- New Solar Power Plant in Belišće – September 2022
- Replace old lighting system with LED in Belišće – June 2022
- New ceiling heating system in Valpovo – 2023
- New sources of hot water from renewable energy in Valpovo – 2024
- Replace Eurodiesel cars with plug in hybrid – from 2022
- New technology process

Waste in Belišće



Fig.1: Amount of waste in the period 2014-2017 (HF Belišće)



Fig.2: Amount of recycled and regular waste in the period 2014-2017 (HF Belišće)

A new location for HF in Hamburg brings an environmentally friendly and modern working environment

Environment/Sustainability in Hamburg

Following the move to the new headquarters in Schlachthofstrasse in the fall of 2021, energy consumption was reduced very significantly in a 12-month comparison with the previous location:

- Electricity consumption fell by 12%. Instead of 862 MWh, only 759 MWh were consumed in the new company headquarters.
- The existing combined heat and power unit generated 230 MWh of electricity in the new building according to the principle of cogeneration. This meant that 30% of the electricity required could be generated in-house.
- Gas consumption fell by 86% or 6,436 MWh from 7,465 MWh to 1,029 MWh in the same period.
- The Combined heat power plant consumed 604 MWh of natural gas. This means that 59% of this energy source was used for the energy-efficient cogeneration process.

Due to the significant savings in the amount of energy used, the carbon footprint of the new headquarters was also reduced compared to the previous location:

- Whereas CO₂ emissions were previously 2,062 t, they are now 498 t. This corresponds to a reduction of 1,562 t or 76%.

The measures taken in the area of CSR for the Hamburg site were again honored with a silver medal by ECOVADIS 2021.



Anti-Corruption (Principle 10)

10 Businesses should work against corruption in all its forms, including extortion and bribery.

HF has already addressed the issue of anti-corruption and compliance in its Code of Conduct. However, as this issue is of fundamental importance and reflects one of the principles of the UN Global Compact, the company has also developed an anti-corruption policy to provide the best possible support to employees in this area as well. HF rejects any kind of corruption, bribery, theft or extortion and expects the same from its employees. The current anti-corruption policy remains valid.



Further information on how HF assumes corporate responsibility can also be found in the sustainability reports