



Hamburger Containerboard
PRINZHORN GROUP

We will.

ENVIRONMENTAL STATEMENT 2021

Hamburger Hungaria Ltd
H-2400 Dunaújváros, Papírgyári út 42-46.
Hungary



Name and accreditation number of verifier,
and date of verification:

ÉMI-TÜV SÜD Kft. accreditation file number: HU-V-0001
EMAS verifier: Mrs Katalin Moravcsik File
Date of verification: 23. 03. 2022.

1. DESCRIPTION OF THE ORGANIZATION

1.1. THE PRINZHORN GROUP



Wilhelm Hamburger

The name “Hamburger” derives from a family name: the word “Hamburger” and the two bastions in the company’s logo commemorate Wilhelm Hamburger, who founded the paper mill in Austria in 1853. By today his descendants have turned the mill into a large international corporation employing 10,000 people in 16 countries under the name Prinzhorn Group. Dunapack Rt. became a member of this company group in the 1990s, separating the packaging and paper manufacturing branches of the business. The former operates under the brand name Dunapack Packaging, and the latter as Hamburger Containerboard.

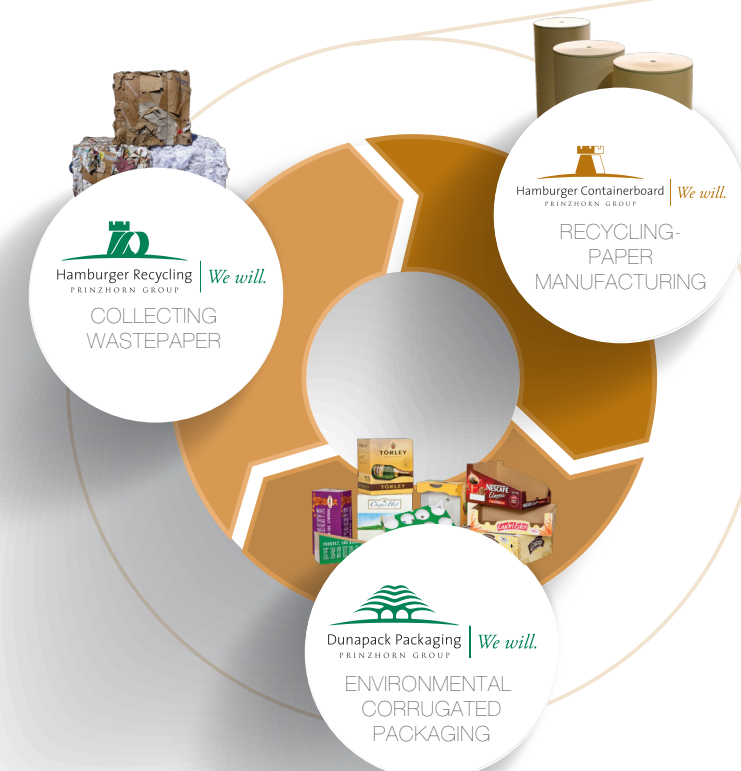
The company group ranks third among Europe’s leading company groups in recycling, paper manufacturing and packaging. Its three subsidiaries in Hungary implement a unique, environment-friendly and energy-efficient industrial and business cycle.

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PRINZHORN GROUP | *We will.*

At the beginning of the fully integrated process, Hamburger Recycling Hungary Kft., representing the Recycling Division of the Prinzhorn Group, collects paper and other waste, which is then recycled in Hamburger Hungária’s Dunaújváros plant and turned into containerboard of excellent quality, and then used by Dunapack to make first-class packaging materials. As the three companies’ operations are built on one another, a cyclical economic model is created that is sustainable over the long term. **This 2021 Environmental Statement of the company only applies to the manufacture of paper and paperboard – as per NACE 17.12.**



1.2. HAMBURGER HUNGÁRIA KFT.

Hamburger Hungária Kft.'s plant is located in the south-east of Fejér County, Hungary, in a zone specially designated for the performance of industrial activities. The plant was built according to industrial installation principles considered modern in the 1960s and 1970s. In this way, a cellulose factory

was established (where pulp was produced from wood and hay), including three paper machines (for manufacturing writing and printing paper and containerboard from primary pulp and waste paper), in addition to a plant for making corrugated products (corrugated paper boxes).

When Dunapack was established, the owner purchased the entire range of production; however, later on, during the separation and streamlining of activities, the owner parted with the cellulose factory and two machines producing writing and printing paper. However, arising from the history of the site, the following elements of the infrastructure are shared or constitute a single system:

- electricity input from the national power supply network
- water supply and the water supply network
- drainage and wastewater treatment
- condensate collection
- railway network



Hamburger Hungária Kft.'s site

Paper machine no. 3 (PM3) was delivered in 1977, and as a result of regular capacity-increasing investments, currently operates with a capacity of 249,000 tonnes per annum. It has undergone continuous technical and technological development to maintain its competitiveness and efficiency.

For Hungarian society, manufacturing technology based on waste paper represents an outstandingly environment-friendly alternative, because as much

as 95% of the paper waste generated in Hungary is recycled.

Instead of being disposed of in landfill sites or burnt in garbage incineration plants, paper is thus returned to the economic cycle in the form of a product that represents higher added value. As a result, the building of the new paper mill was also the largest environmental protection investment project of the past few years in Hungary.

Paper machine no. 7 (PM7), commissioned in the summer of 2009, has undergone regular improvements and, as a result, currently manufactures an annual 570,000 tonnes of corrugated paper made 100% from waste paper. In addition, particular mention must be made of the high standard of technological and technical development. The machine's performance is outstanding in Europe, as confirmed by its unit indicators. Below are the details of the individual indicators, each of which meets and even surpasses BAT requirements.

The industrial railway track leading to the site is suitable for meeting the company's rail transport needs.

The overwhelming majority of the electricity and thermal energy required for running the production equipment is generated by a power plant operating on

site, and only a minor part is procured from external companies, i.e. from ISD Dunafer Zrt. and E.ON, both operating in the same industrial zone.

The company obtains the industrial water required for its technology from ISD Dunafer Zrt., and purifies it in an industrial water treatment plant to make it suitable for the manufacture of paper.

On the site of the paper mill, there is a sewer network with three functions, for the separate collection of industrial wastewater, communal wastewater and rainwater. Rainwater bypasses the wastewater treatment plant, while industrial and communal wastewater undergoes mechanical and then biological treatment. Since February 2018, the company has only been treating the industrial wastewater generated in its own plant, and not wastewater from neighbouring companies.

1.3. DESCRIPTION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM

Hamburger Hungaria Kft. endeavours to achieve sensible environment-friendly operation, to certify the existence thereof, and to maintain the environmental impacts and risks of its activities, products and services within a regulated framework, in keeping with its environmental policy and objectives.

All this is carried out in parallel with increasingly stringent legal regulations and improvements in economic policy and other environmental protection measures, while identifying the needs and expectations of stakeholders, communicating with them, responding to their questions related to the environment, and providing for employee training.

Management screenings, as well as internal and external audits, are performed annually to assess the company's environmental performance with a view to the various considerations of sustainable development. In order to ensure uninterrupted improvement, we set objectives on the basis of our governance policy, the rules applicable to us, risk assessments and our significant environmental impacts. Specific action plans (programmes) are assigned to these, with deadlines, persons in charge, and the necessary tools to map out the path to achieving the objectives. The uninterrupted monitoring of these programmes and the updating of objectives is supervised by the executive body of the management system.



The Integrated Management System Team (from left to right): Virág VINCZE - Environmental Engineer, Barnabás BAGI - Energy Officer, Emese SZLÁVIK - Head of Quality Control, Norbert NÉMETH - Work Safety Engineer

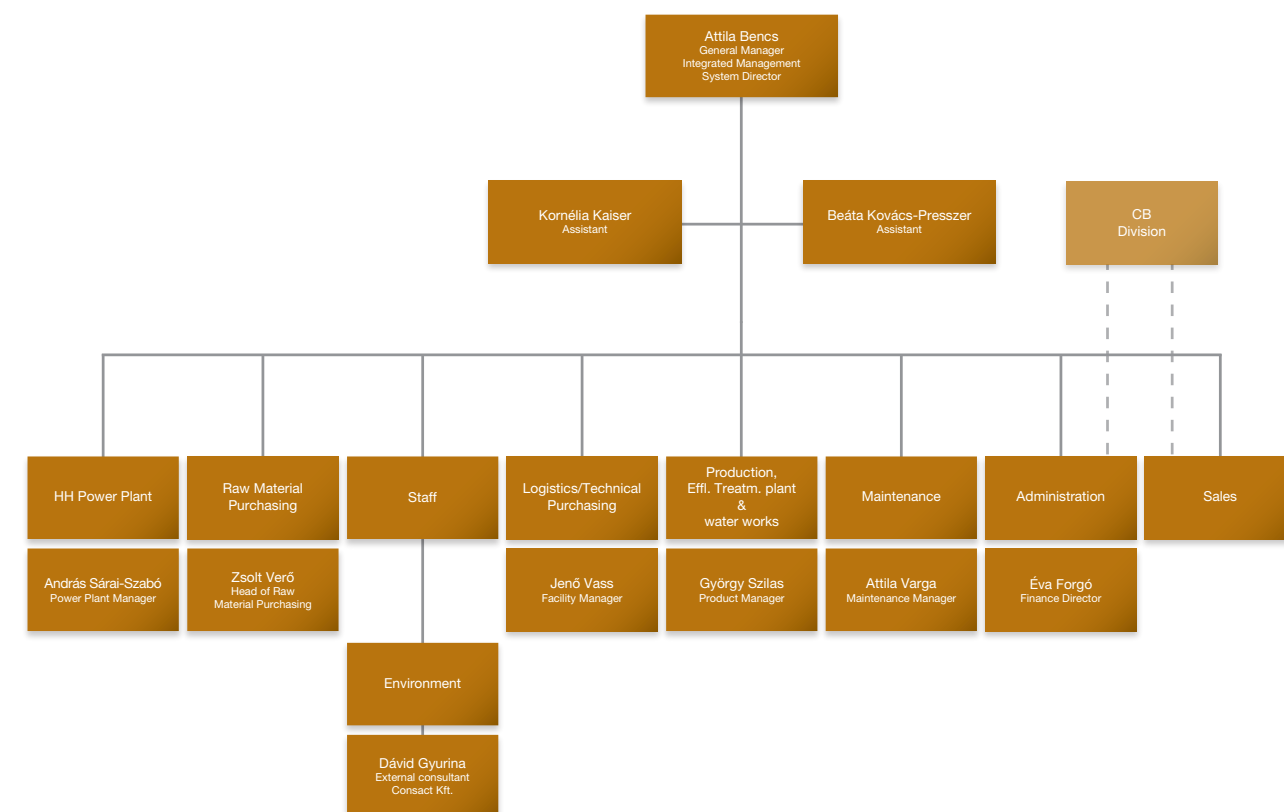
INTEGRATED MANAGEMENT POLICY

Hamburger Hungaria Kft. considers as its fundamental objectives:

- ▶ fulfilment of customer requirements to a high standard;
- ▶ responsibility for the health and safety of employees, and consistent commitment to social responsibility, the environment and energy efficiency;
- ▶ serving the interests of the owner and employees.

In order to achieve our objectives:

- We operate an integrated management system in compliance with the requirements set out in the international standards ISO 9001, ISO 14001 and ISO 50001, as well as ISO 45001, and Regulation 1221/2009/EC (EMAS);
- Our management system, activities, products and services are continuously monitored and improved;
- In order to achieve goals and targets, we guarantee the necessary information and resources, aiming to apply the best technologies available to us, and to achieve the continuous development achievable via their application, extending to economies of scale, safety, quality, energy efficiency and environmental performance;
- We produce our products by 100% recycling of waste paper, endeavouring to fully satisfy customers' quality requirements;
- We maintain constant and proactive communication with our customers in order to identify their needs as precisely as possible and to provide them with up-to-date and accurate information on the quality and ecological benefits of our products; the services provided to our customers also include technical customer service, logistics and customs administration activities;
- We apply strict requirements to our suppliers and sub-contractors, and constantly monitor and evaluate their performance; we make efforts to purchase energy-efficient products and services;
- In the course of planning our activities and performing our daily work – through the alignment of our financial interests with the requirements of environmental protection – we endeavour to conserve natural resources and follow the principles of energy efficiency and sustainable development, applying a life cycle approach;
- In order to ensure the assertion of customers' interests, environmental protection, energy efficiency, and the health and safety of our employees, partners and visitors, we regularly assess the risks and hazards of our activities and make efforts at continuously reducing these risks via scheduled measures;
- We consider it our fundamental obligation to achieve a high standard of environmental protection and more energy-efficient operation by simultaneously complying with laws and official regulations, and to create, maintain and continuously improve healthy and safe working conditions for our employees and partners. To this end, we have put in place and are continuously improving the necessary monitoring mechanisms in order to enhance the management of emergencies endangering our staff and the environment;
- Our employees are regularly informed of the company's objectives and results, and undergo regular training to improve their expertise, knowledge, commitment and awareness;
- We follow an honest and open information policy towards the population living in the surroundings of the paper mill, the general public, the authorities and various offices in order to establish mutual trust;.
- We consult with employees and their representatives, ensuring their involvement in the development, operation and evaluation of management processes.



The purpose of operating and constantly improving the integrated management system is to meet a complex set of objectives:

- to meet our customers' needs and expectations to the highest possible standard and ensure their satisfaction with our products and services;
- to live in harmony with the environment and society, and to manage our business in a sustainable manner;
- to ensure appropriate, safe and healthy working conditions for our staff;
- to pay particular attention to energy efficiency during work;
- to keep the company's business interests in mind.

This set of objectives and the fundamental principles required for achieving them are formulated in our management policy, one of the pillars of the management system and our daily activities.



We are convinced that the consistent application of these fundamental principles is of key significance in efficient business management, the maintenance and strengthening of our market position, and the development of our company.

Dunaújváros, 10 December 2019


 Attila Bencs
 Managing Director

2. DESCRIPTION OF MANUFACTURING

The paper manufacturing activity performed at Hamburger Hungária Kft's site is 100% waste paper-based. In order to facilitate a better understanding of the environmental impacts of production activity, the papermaking process is briefly described below.

2.1. MANUFACTURE OF PAPER AND PAPERBOARD

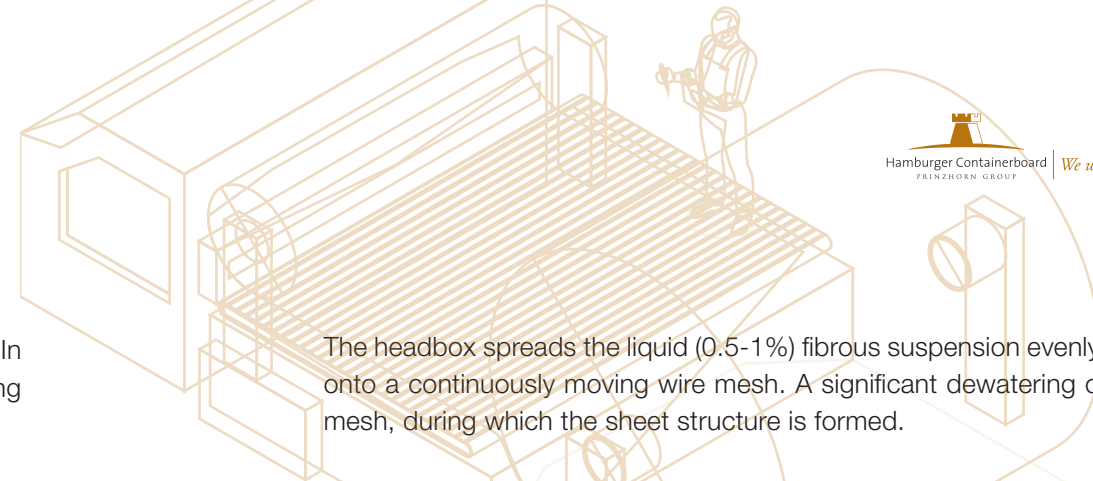
The papermaking process entails three main technological phases.

Stock preparation

The preparation of stock (raw material) includes the processes of preparing the fibrous materials to be fed into the paper machine, and in this phase waste paper is pulped using water. The resulting material is cleaned, sorted in several steps, and formed by mechanical methods, before the pulp suitable for papermaking is fed into the paper machine.

Forming

Forming of sheets is carried out on the paper machine by dewatering the fluid fibre suspension while it flows, by pressing and drying the wet pulp web. The main components of the paper machine are the headbox, wire section (wet end), press section and dryer section.



The headbox spreads the liquid (0.5-1%) fibrous suspension evenly along the entire width of the paper machine onto a continuously moving wire mesh. A significant dewatering of the stock takes place on the endless wire mesh, during which the sheet structure is formed.

When the paper web leaves the wire, it still contains 80% water. Further dewatering takes place in the press section, where the water removed by the press rolls is carried off by felts.

The water content of the web exiting the press section is 45-50%. In the dryer section, the rest of the water evaporates from the web as it passes through steam-heated dryer rolls, until eventually the water content of the web drops to 6-8%. Every paper mill endeavours to make this loop as closed as possible so that the minimal amount of fresh water is consumed, resulting in less wastewater and fibrous material as by-products of the manufacturing process.

Primary packaging

At the end of the paper machine, the finished paper is wound onto a reel or tambour, producing a master roll which is cut up into smaller rolls and labelled according to the customers' requirements. Finished rolls are carried into the automated storage facility via conveyor belts, where they are sorted according to paper grade and customer, and stored until delivery.



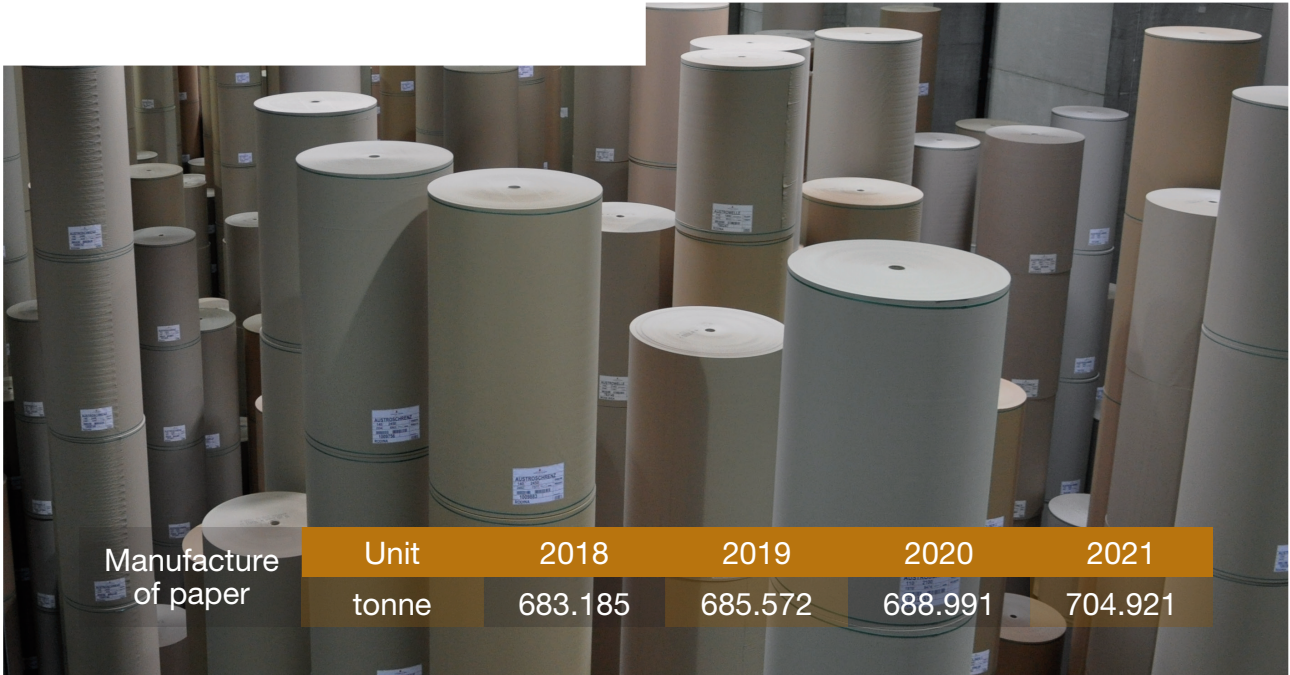
Paper Machine 3



Paper Machine 7

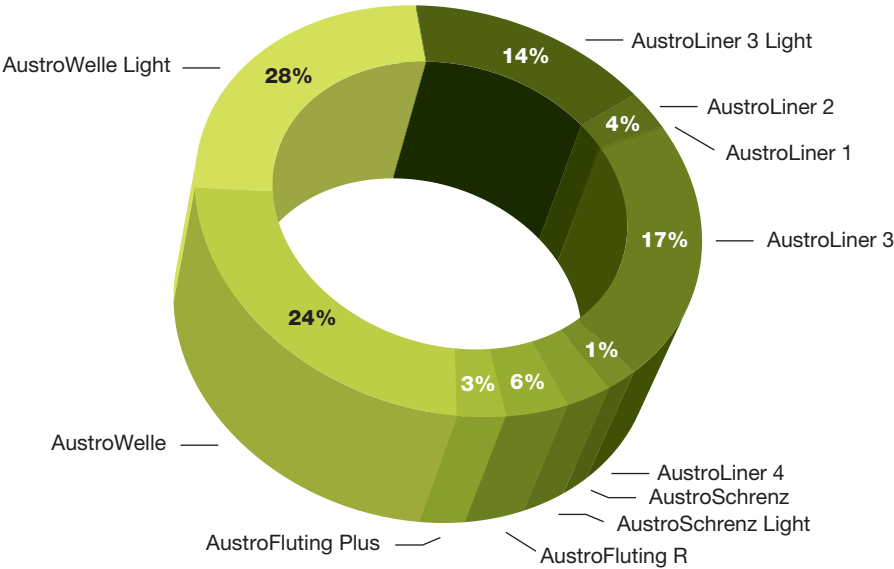
2.2. PRODUCTION

At the site of Hamburger Hungária Kft., PM3 operates with a capacity of 249,000 tonnes per annum and PM7 with a capacity of 570,000 tonnes per annum. The paper machines produce primarily containerboard, including linerboard and corrugating medium (or fluting) with a surface weight of 70-175 g/m2, exclusively from waste paper. The base papers produced by the company are used to make corrugated products (cardboard, boxes, paper rolls) for nearly all branches of industry. In recent years, on-site production has evolved as follows:



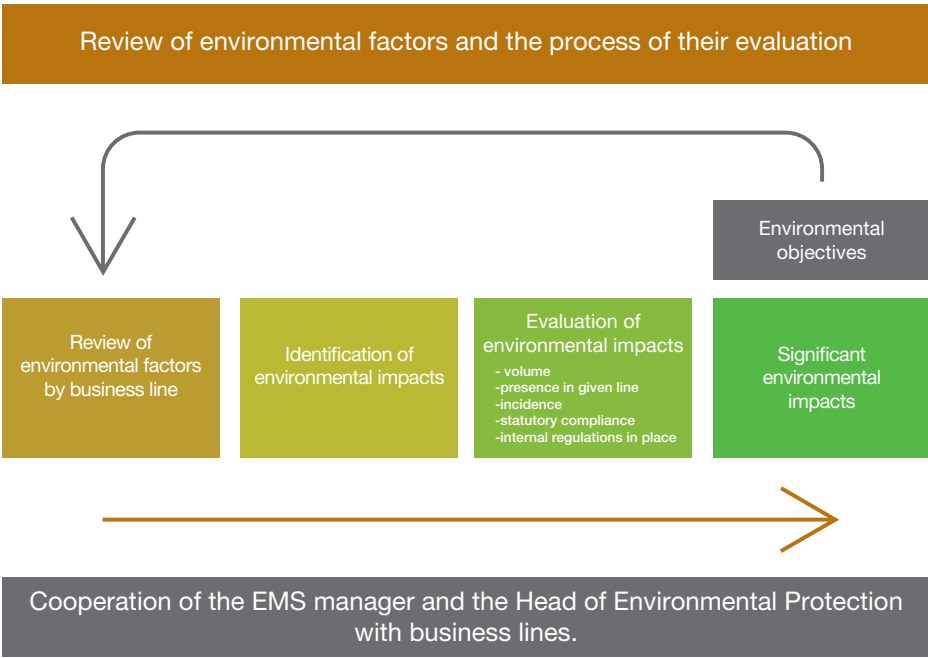
In 2021, the two paper machines manufactured various kinds of paper used as raw material for corrugated boxes in a product assortment similar to previous years. Exclusively (100%) waste paper was used as the raw material for production, and 82% of the manufactured goods were sold on export markets.

The volume of manufactured products amounted to 704,921 tonnes, and their distribution by paper grade is shown in the following chart.



3. ENVIRONMENTAL IMPACT ANALYSIS

Within the framework of preparations for the annual management screening, the evaluation of environmental impacts is reviewed and updated as follows. The environmental aspects of individual activities, products and services, together with the resulting environmental impacts (regular, non-regular, and during operation under emergency conditions), are identified with the help of a document entitled “Matrix of Environmental Factors and Impacts.” Individual impacts are rated by scoring on the basis of previously specified criteria.



The significant environmental impacts at our company include, but are not limited to, the following: use of waste paper (as a favourable impact), consumption of electricity, thermal energy and fresh water, wastewater discharge, water pollution and waste generation.

We are equipped to manage extraordinary situations that generate potential environmental impacts, and have an Operational Damage Control Plan approved by the competent environmental authority. This document specifies the actions to be taken and the contact details of persons and organizations (environmental and water management authorities) to be notified in the incidence of damage. In 2021 there was no incident or emergency that entailed a danger of damage to the environment.

In the course of operating and improving our technology, we take into account the conclusions on the best available techniques (BAT) made under Directive 2014/687/EU governing the manufacture of paper for recycling purposes, and develop our technological and technical requirements accordingly.

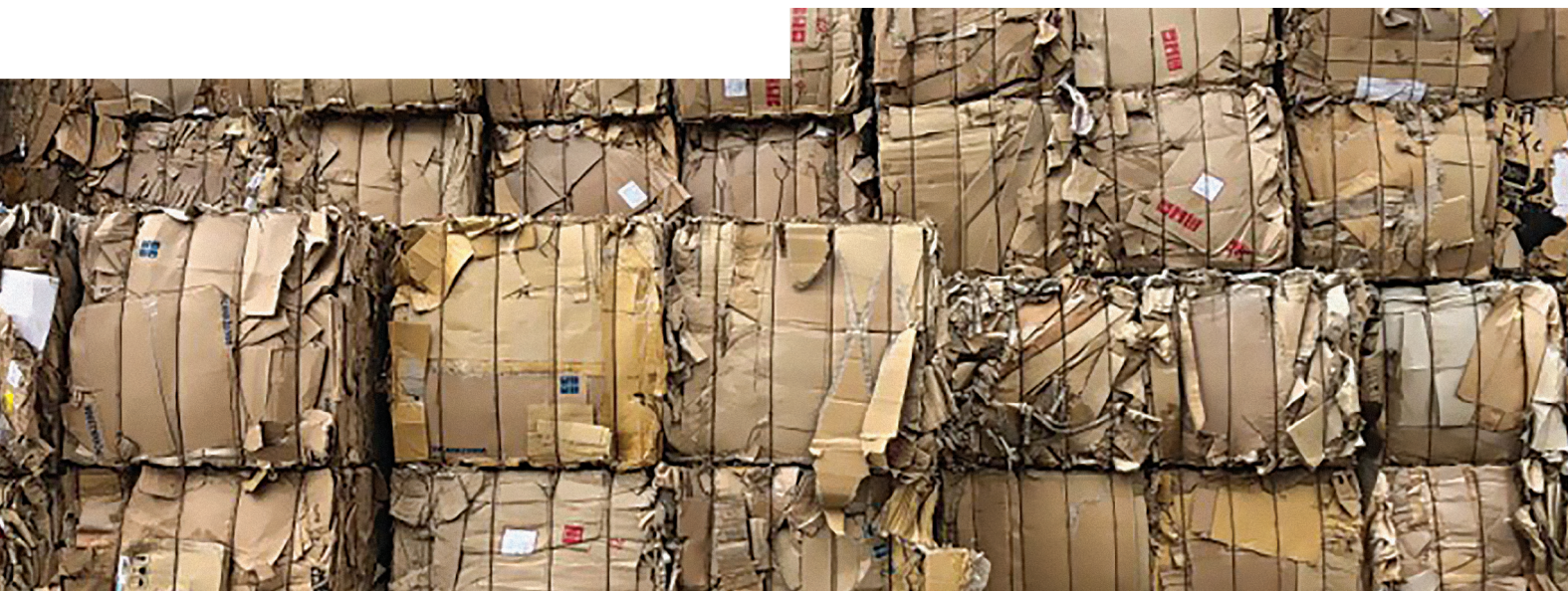
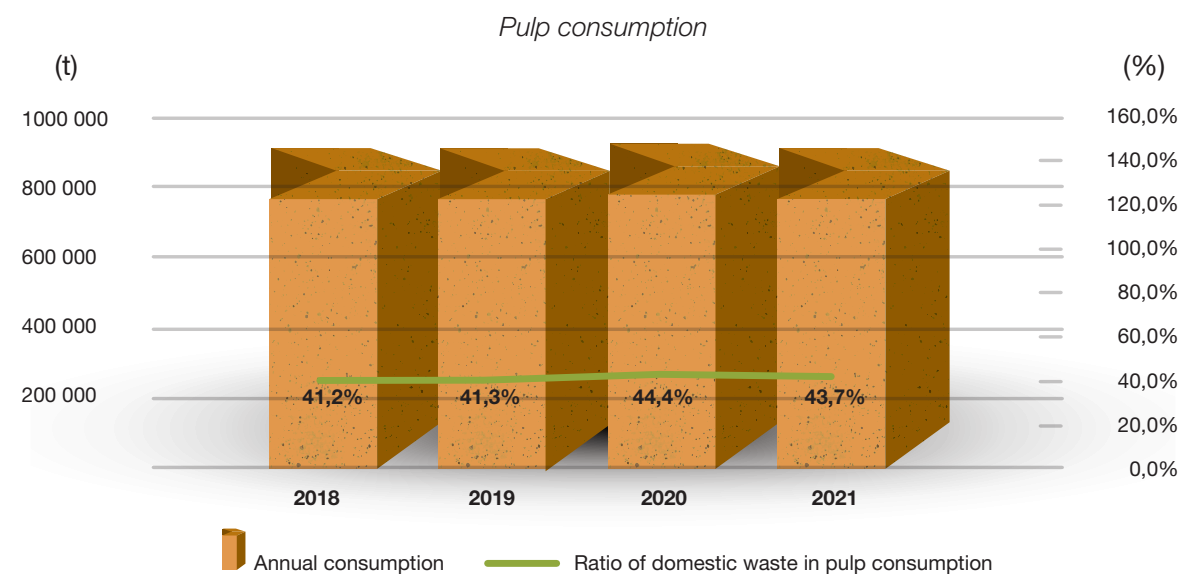
3.1. WASTE PAPER USE

The main raw materials used in papermaking include pulps from trees and other plants (primary pulps) as well as waste paper (secondary pulps). The raw material for products manufactured by Hamburger Hungária Kft. is exclusively waste paper, as no primary pulp is added to the waste paper during the manufacturing process. For this reason, the availability of a sufficient amount and appropriate quality of waste paper is of vital significance for the company.

Up until recycling, the paper of appropriate quality received for recycling at the site is stored on a 100% paved surface, protected by a high fence against dispersion, in accordance with the expectations of BAT. Thanks to its production accomplished in the year reviewed, Hamburger Hungária Kft. recycled 337,928 tonnes of waste paper generated in Hungary.

The ratio of waste paper collected in Hungary and used in pulp consumption was identical to the previous year's figure at 43.7%. Hamburger Hungária Kft. is compelled to import waste paper as the domestic supply fails to cover the amount required for production. The waste paper and refuse generated in the course of papermaking is returned to the pulper, and thus remains in the internal cycle of papermaking. This amount was 8,955 tonnes in 2021, representing 1.3% of the net amount of the paper manufactured.

The following diagram shows waste paper consumption data.



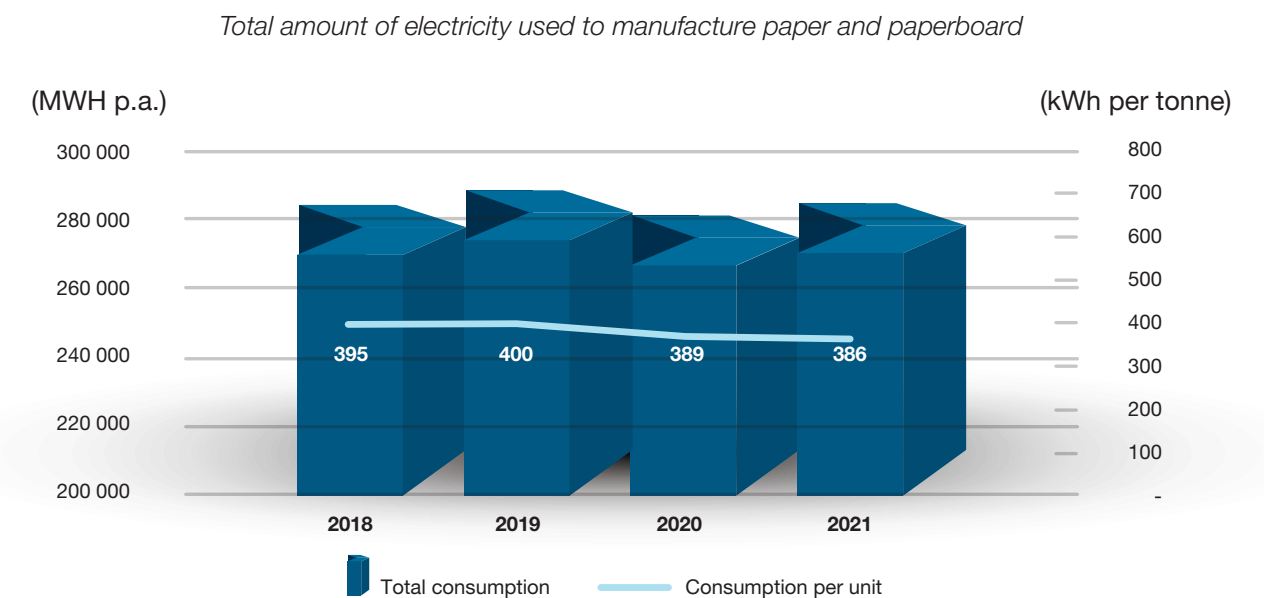
3.2. ENERGY MANAGEMENT

Worldwide, the paper industry is classified among traditionally highly energy-intensive sectors. This applies to both thermal energy and electricity consumption. Thermal energy consumption is high because a great amount of heat is needed in the paper machine for drying paper – in other words, for evaporating its water content – while the use of electricity is high because paper machines operated by electricity are required for moving or forming water, paper pulp and paper sheets. We continuously adopt measures to improve energy efficiency for two reasons: to improve economies of scale through the use of modern solutions and to reduce the environmental load caused by papermaking.

Compression in the press section of the paper machine has been optimized accordingly. With the help of numerous heat exchangers, heat is regained before steam condensate is emitted into the air. These solutions are in keeping with BAT53 recommendations.

Since 2016, our company has been attested according to the ISO 50001 standard.

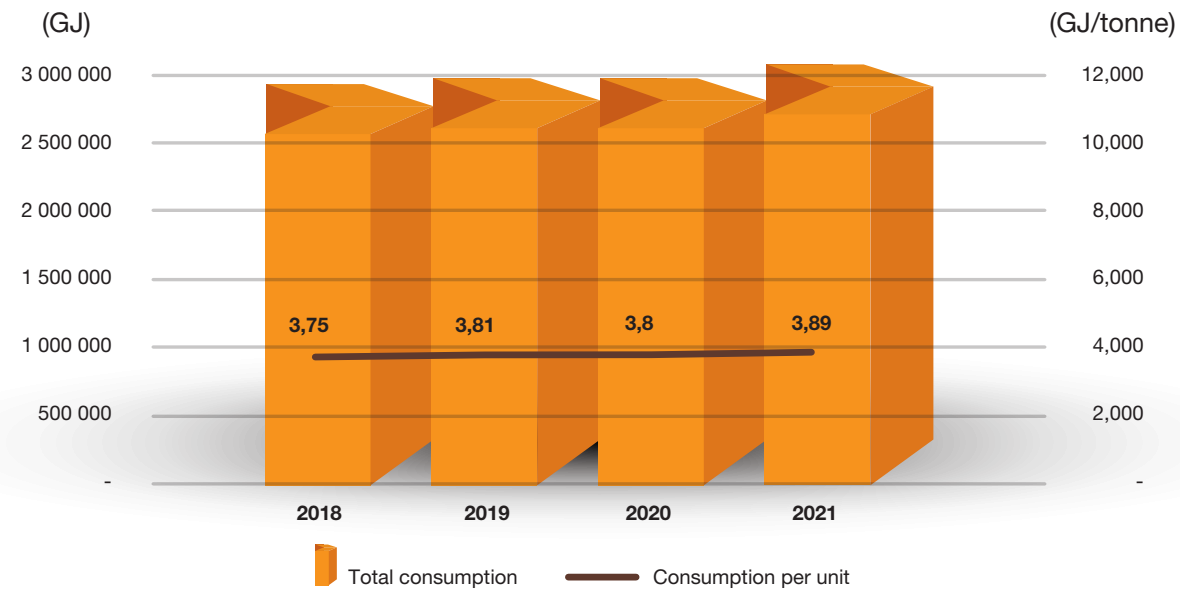
Last year the total unit consumption of electricity for paper manufacturing decreases by a 1% on the previous year.



This very slight increase was caused by technical changes in paper machine no. 3. In an effort at reducing contamination to improve paper quality, new sorting and cleaning equipment was commissioned.

The following diagram shows data for total thermal energy consumption in papermaking. Our unit thermal energy consumption was up minimally 1% on the previous year.

Total amount of thermal energy used to manufacture paper and paperboard



The biogas generated during anaerobic purification at the wastewater treatment plant is collected and transferred to our own power plant and used in an auxiliary boiler compartment, in a CFB boiler or in biogas engines operating since May 2017.

The key parameters related to biogas are as follows:

- + Total amount of generated biogas: 9,970,291 m³
- + amount used: 9,946,148 m³
- + Volume of flared gas: 24,143 m³

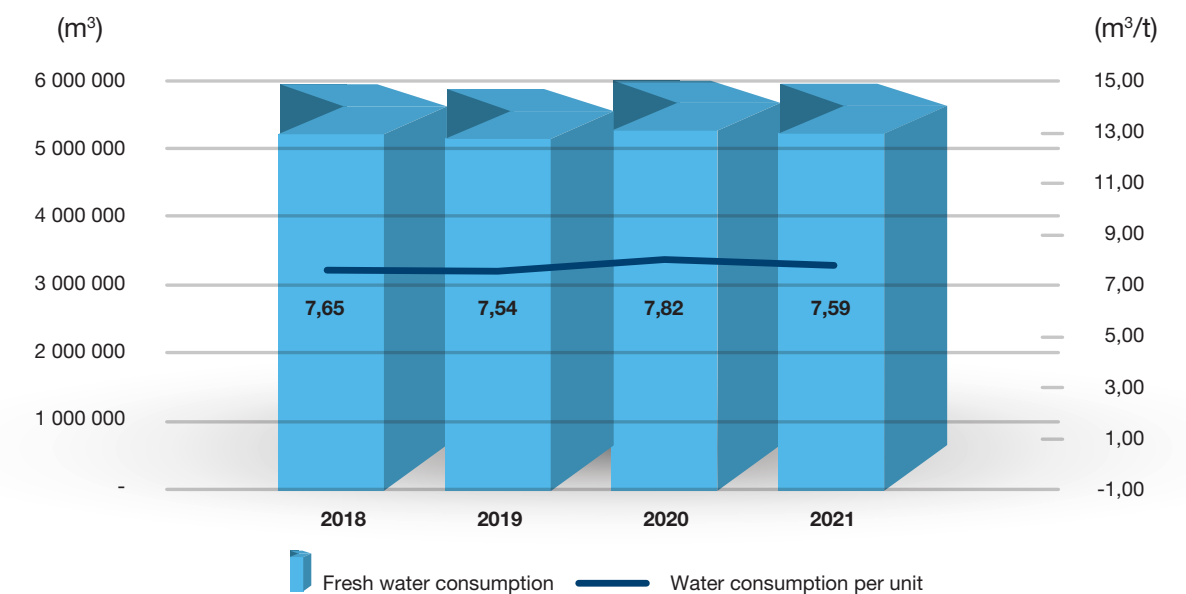
The amount of the generated biogas further increased to the previous year. According to the test record made on, 06.10.2021, the composition of purified biogas was typically the following: 62.5% methane, 35.7% carbon dioxide and 1.8% other gases.

3.3. WATER MANAGEMENT

Water use is the other area where the presented technology requires papermaking to most utilise the environment. This entails partly the use of a large amount of water and partly the emission of resulting wastewater. In order to reduce this to the minimum, we continuously strive to make our water system as closed a loop as possible, while also controlling our use of chemicals. Consequently, the pulp-rich water generated during papermaking is recirculated on multiple occasions. This simultaneously provides an opportunity for reducing fresh water input and for increasing pulp recovery. With this technological solution, we also comply with the best available technique of fresh water consumption.

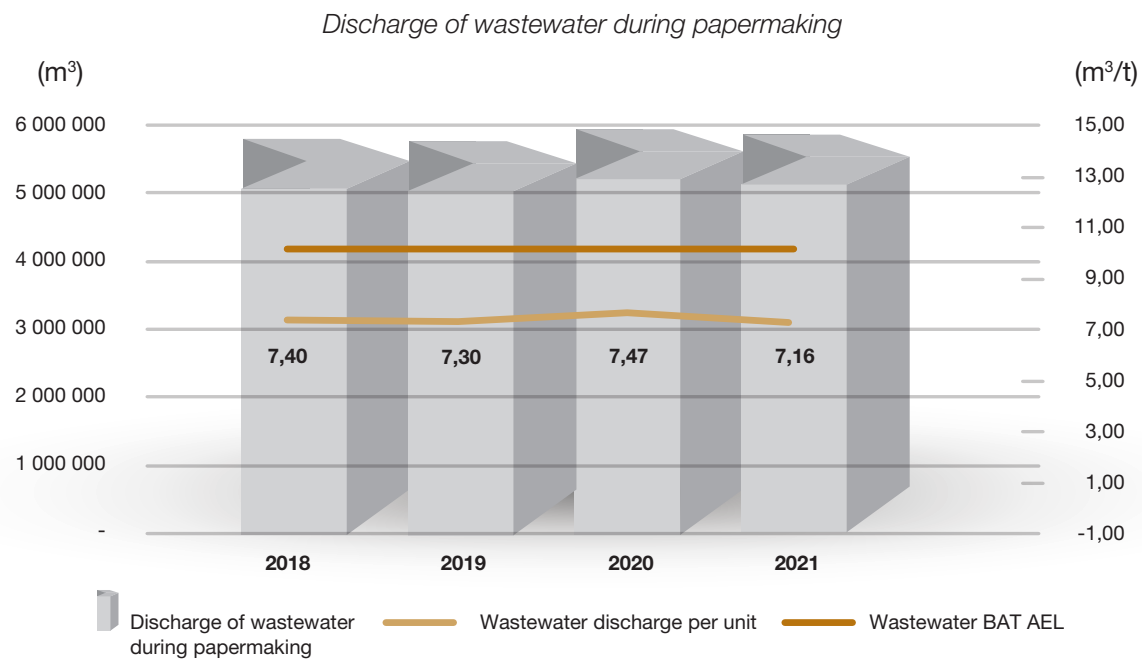
Unit water consumption in papermaking was down 3% on the previous year.

Fresh water used in paper manufacturing



Wastewater is treated in the modern, two-phase biological wastewater treatment plant operated by Hamburger Hungária Kft. Similarly to fresh water consumption, the volume of wastewater generated during paper manufacturing decreased on the previous year. Its unit value was 7.16 m³ per tonne, considerably below the value recommended under the best available technology (10 m³/t).





Wastewater quality is tested on the basis of a self-monitoring schedule approved by the competent authorities, with the help of spot samples taken on a monthly basis. The following table contains the averages of these measurements.

WASTEWATER DISCHARGE Findings of the self-monitoring

	Limit since 14/03/2018	2019	2020	2021
	mg/l			
Volume of used dichromate oxygen (COD _K)	685	119	99,8	99,16
Five-day biochemical oxygen demand (BOD ₅)	50	14	8,8	25,33
Total suspended solids	200	17	27	46,41
Adsorbable organic halides	1,643	0,064	0,065	0,093
Total amount of inorganic nitrogen	10	2,83	3,2	2,0
Total amount of phosphorus	2	0,89	0,92	0,49
Toxicity	-	-	-	-

We submitted our self-monitoring plan for 2021-2025 on 30.04. 2021. The results of monthly self-monitoring measurements performed last year conformed to the specified threshold limits, and the authority did not identify any contaminant emission exceeding the specification.

In order to obtain a more complete picture of the operation of the wastewater treatment plant and to be able to perform a more efficient performance evaluation, since 2018 the results of water quality tests regularly performed during the operation of the wastewater treatment plant are taken into account, instead of the above-referenced spot samples. As these tests are carried out considerably more frequently (daily or weekly), the results obtained better represent the operation of the technology and any related short-term changes taking place. (See at point 6 Environmental protection in figures.)

3.4. AIR PROTECTION

In the case of the various additives used in paper manufacturing, special care is taken to specify their solvent and VOC (volatile organic compound) content, and formulas imparting colour are used accordingly. In this we fulfil the BAT51 recommendation. Regarding the air conditioning equipment on site, we meet our obligation to register in the HLH (refrigeration, air conditioning and heat pumps) monitoring system. The site has a single point source, belonging to an emergency diesel pump found in the industrial waterworks. A specified emission limit does not apply to this equipment, and no other measuring obligation is required.

3.5. SOIL PROTECTION

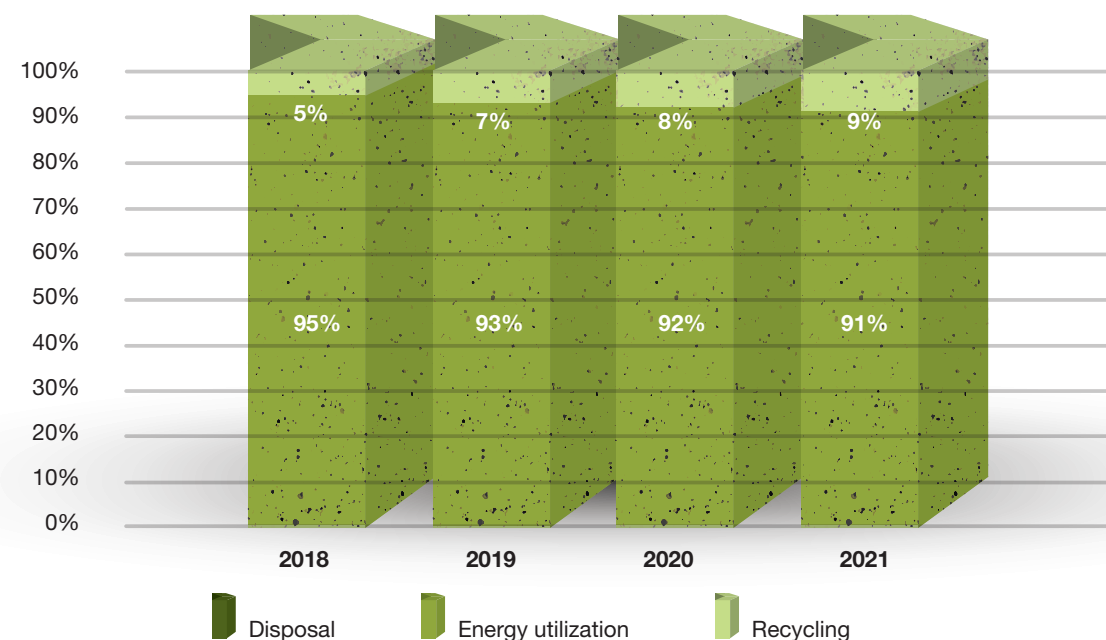
In order to prevent all kinds of soil contamination, the methods of storing, moving and using hazardous substances used in the course of production are tightly regulated, and potentially contaminant containers are appropriately protected and equipped with emergency basins. A basic FAVI report and notices of changes regarding hazardous waste containers located on the site were also performed.

3.6. WASTE MANAGEMENT

Waste paper processing includes the sorting of contaminants (reject) that are unsuitable for papermaking (e.g. foil, baler twine, etc.). After sorting, 91% of the reject material was used in energy production in our compound heating power plant, while 9% was recycled by other waste management companies. The following diagram illustrates the company's responsible actions to provide for the additional management of production waste.



Distribution of the delivered reject according to the method of utilization

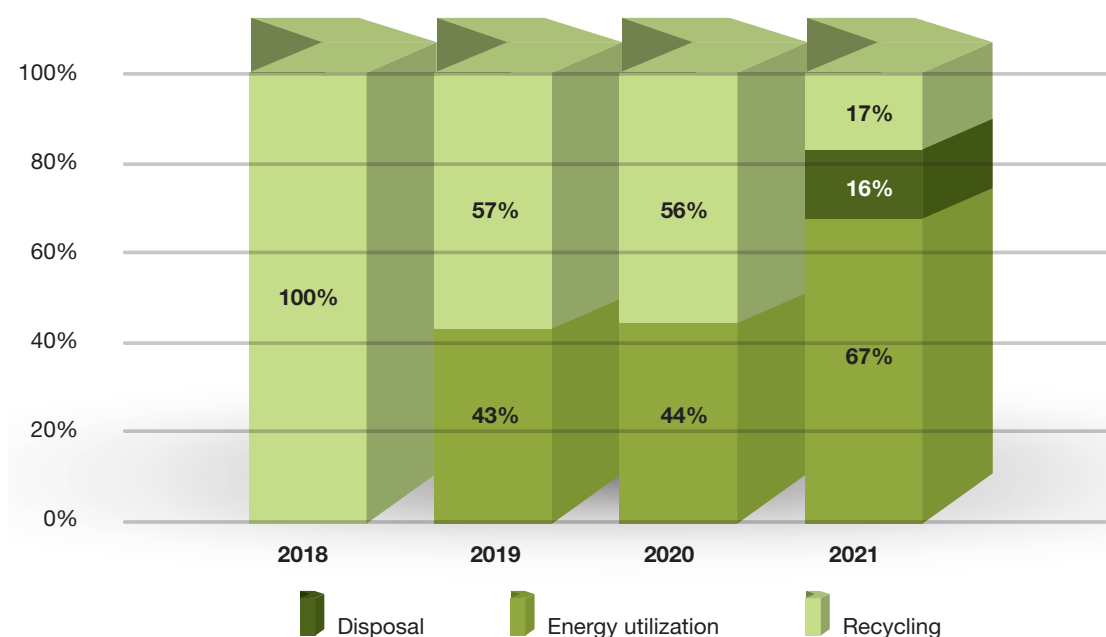


Following removal from the wastewater treatment plant, 17% of the sludge is converted into qualified compost through a technology applied by the neighbouring waste management company, thus minimising the indirect environmental load. Due to the tight capacity of this waste management firm, the remaining part (67%) is transferred to a waste manager who can dispose of it after preliminary treatment.

In 2021, the sludge centrifuge was successfully implemented, so the dewatering of the sludge generated enables the energy recovery of the sludge, which was one of our 2021 targets. Thus, from autumn 2021 onwards, 16% of the sludge is used for energy recovery in our own power plant.

Our further objectives include achieving the highest possible ratio of recycling or energy utilization.

Distribution of the delivered sludge according to the method of utilization



The majority of our hazardous waste comprises liquid oily waste generated during maintenance, used lubricants, greases, absorbents, chemicals and the packaging waste of indirect materials contaminated by hazardous substances. Their volumes fluctuate year by year, depending on the maintenance of the various equipment.

Delivered waste is transferred to a licensed waste manager, primarily for additional utilization or for disposal. In 2021, the non-hazardous and hazardous production waste included in the table in Section 6 was generated at the site in the amounts specified in the table.

3.7. NOISE LOAD

The paper mill is located on an area designated for industrial activity.

On 12 May, 2020, the Fejér County Government Office issued a unified environmental permit under registration number FE-08/KTF/1096-35/2020, which approved our noise abatement action plan based on the expert opinion, which we plan to implement up to Phases I-IV. The expected completion date is 31 December 2028.

In 2021, the following actions were taken:

- PM3 plant TV1(2) roof fan noise abatement using an absorber duct silencer. The required noise reduction is $\Delta L_z = 15$ dB (A).
- PM3 plant TV3(3) roof fan noise abatement using an absorber duct silencer. The required noise reduction is $\Delta L_z = 15$ dB (A).
- Noise attenuation of the PM3 plant HCS3 exhaust stack with a noise barrier. The required noise reduction is $\Delta L_z = 15$ dB (A).
- Noise reduction of the PM7 plant VK1(2) roof fan using an absorber duct silencer. The required noise reduction is $\Delta L_z = 20$ dB (A).

In 2022, the following action will be taken:

- Fitting of noise protection cladding to the ceiling of the passageway at the steam receiving station. The required noise reduction is $\Delta L_z = 20$ dB (A).

3.8. FUEL USE

For the purposes of in-house movement of materials, forklift trucks fuelled by PB gas are used and we have our own filling station in relation to this. In 2021 138,539 liter of gaseous fuel was consumed.

Our own fuel oil filling station was commissioned on the territory of the paper mill in 2016, and in 2021 the recorded consumption of fuel oil was 507,525 liter.

No environmental damage occurred at the filling stations.



3.9. OTHER ENVIRONMENTAL IMPACTS

In addition to striving to reduce the environmental impacts of our own activities, we also make efforts, as far as it is within our power to do so, to favourably influence the impacts caused by our subcontractors and suppliers.

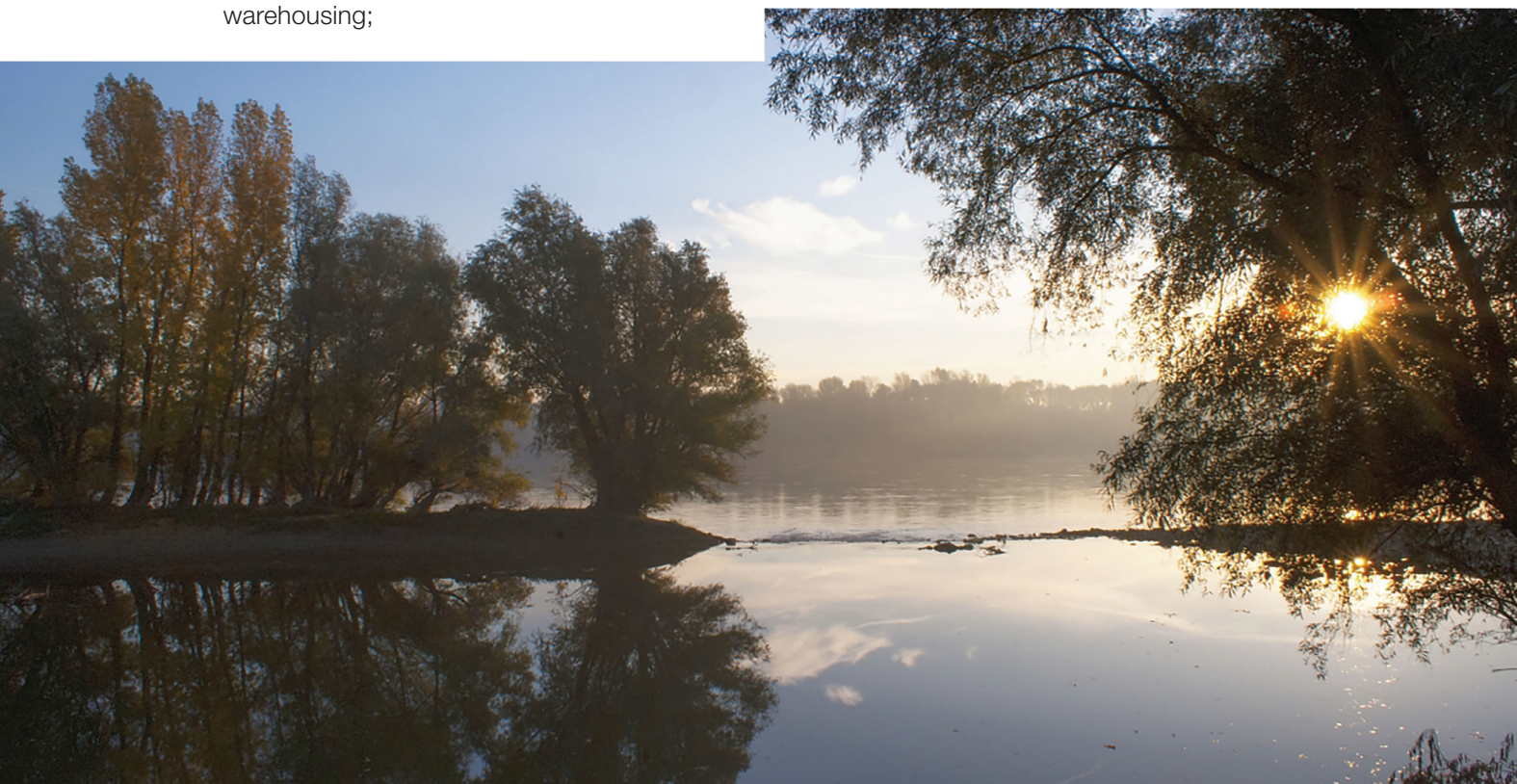
We make regular efforts to maintain, and, as far as possible, increase the ratio of transport by rail and river. Logistical, environmental and financial considerations alike suggest that water and rail transport would provide a reasonable solution in the case of raw materials and rolled paper products. However, the number of customers and suppliers capable of receiving delivery by rail or water is on the continuous decline.

In addition to monitoring the environmental performance of our own activity, for several years we have also been evaluating the environmental impacts caused by our subcontractors and suppliers.

When selecting partners, we prefer enterprises with an environmentally conscious, responsible attitude towards the environment. We have set contractual and other requirements vis-à-vis third-party corporations performing activities on our site, in order to ensure that they, too, contribute to reducing the environmental load of the sites.

Such requirements include, for example:

- ✓ the existence of a management system with a focus on the environment, or efforts at building such a system;
- ✓ the avoidance of use of toxic substances that damage the environment;
- ✓ packaging that ensures safe and environment-friendly transportation and warehousing;
- ✓ transport vehicles that are only allowed to enter the site in an impeccable technical condition;
- ✓ when indirect materials are transported, the safety data sheet of the material to be attached in every case.



4. COMPLIANCE WITH THE LAW AND STAKEHOLDER EXPECTATIONS

We continuously monitor the legal requirements in force in relation to the environment. We maintain records of the statutory regulations related to our activity in a regulated manner, in the procedural rules entitled “Management of External Documents,” included in our integrated management system. We have continuously been performing and reviewing the assessment of compliance based on our uniform environmental licenses.

We are also continuously carrying out preparatory work, like impact assessments and pre-permit work for our planned investments. In the course of its operation, our company comes into contact with or is exposed to the impact of numerous companies, private persons, employees and inhabitants living in the neighbourhood, officers of the central and local governments and other business partners. The above-referenced stakeholder groups have been taken into account and their needs and expectations of us comprehensively evaluated in accordance with the provisions of the relevant procedural rules. Communication with stakeholders on environmental matters is performed in accordance with the procedure V-K-E-02.

The environmentally key stakeholders who have high expectations of us and fundamentally determine our operations are listed below.



Community, civil and non-governmental organizations

No comments were made on the site by any community, civil or other non-governmental organization.



Local government, authorities and ministries

We have consulted local governments and competent authorities about matters related to environmental authorization for projects on the site.



Professional organizations

We participate in the work of numerous Hungarian and international professional organizations. Occasionally we deliver lectures and on other occasions we are listeners. With the help of professional organizations or as the government’s strategic partner, in 2019 we had the opportunity to participate in giving opinions on numerous statutes and strategies regarding environmental protection. Through our active contribution and the sharing of our professional experiences in the industry, we have assisted the work of decision-makers and legislators.

We join in the activities of the following organizations:

- + EOQ MNB (Hungarian National Committee of the European Organization for Quality)
- + KSZGYSZ (Association of Environmental Service Providers and Manufacturers)
- + CSAOSZ (National Association of Packaging and Materials Handling)
- + MHT (Hungarian Hydrological Society)
- + MGYOSZ (Confederation of Hungarian Employers and Industrialists)
- + PNYME (Technical Association of the Hungarian Paper and Printing Industry)
- + NYPSZ (Federation of Hungarian Printers and Papermakers)
- + CEPI (Confederation of European Paper Industries)
- + ISO Forum
- + HOSZ (Hungarian Waste Management Federation)

During regulatory inspections it was established that we perform our activity in accordance with the provisions of our authorizations and of the statutes.

The most significant directives of the European Union and Hungarian statutes related to our activity include the following:

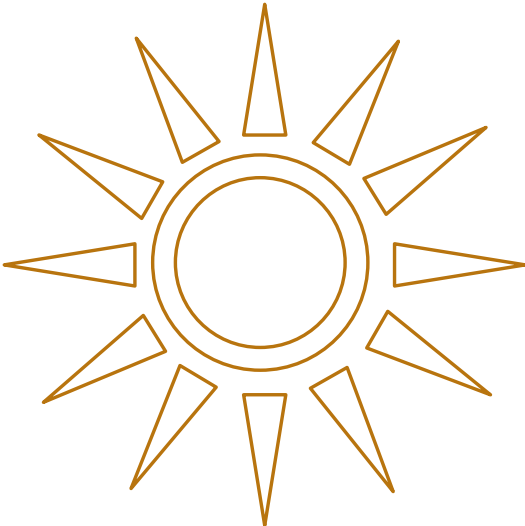
- § Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
- § Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
- § Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, establishing a framework for Community action in the field of water policy
- § 2014/687/EU: Commission Implementing Decision of 26 September 2014 establishing the best available techniques (BAT) conclusions [...] for the production of pulp, paper and board
- § Regulation 1221/2009/EC (EMAS) amended by Regulation 2017/1505/EU and by Regulation 2018/2026/EU
- § Act LIII of 1995 on the general rules of environmental protection
- § Act CLXXXV of 2012 on waste
- § Act LXXXV of 2011 on the Environmental Product Fee
- § Government Decree 220/2004. (VII. 21.) on the rules for protecting the quality of surface waters
- § KvVM (Ministry of Environmental Protection and Water Management) Decree 28/2004. (XII. 25.) on the emission limits of water contaminants and the special rules governing their application
- § KvVM (Ministry of Environmental Protection and Water Management) Decree 27/2005. (XII. 6.) on the detailed rules for verifying the discharge of used and wastewater

5. IMPLEMENTATION OF THE 2021 ENVIRONMENTAL PROGRAMME

Objective	Action	Deadline	Evaluation
Reducing the use of fossil resources.	With the implementation of the technological excess sludge centrifuge, the moisture content of the sludge will be significantly reduced, thus allowing the sludge to be used for energy recovery, reducing the use of fossil resources.	31/12/2021	The project has been completed and since September 2021 the sludge has been used for energy recovery.
Increase in the recovery rate of sewage sludge landed.	With the implementation of the sludge centrifuge project the dry solids content of the sludge will be increased from 20% to 38%. This will increase the recovery rate of the sludge.	31/12/2021	The project has been completed and since September 2021 and an increase in the sludge recovery rate has started.
Noise reduction at PM3, the required noise reduction is ΔL_z = minimum 15 dB (A).	Based on the noise assessment performed at Hamburger Hungária's site in 2020, reduction of the main noise sources in 4 phases between 2021-2028.	31.12.2021	The necessary investments have been made and the first stage of the required noise reductions has been completed. Work is continuing as planned.

Objective	Action	Deadline	Evaluation
PM3 constant part energy use reduction.	The obsolete cleaner system in the current constant section will be completely eliminated and a much smaller, but thanks to today's technology, much more efficient vortex classifier system will be installed in the material preparation section. The necessary filtering equipment will be replaced by a modern type. This will reduce the energy demand of the complete cleaner system to about 30% of the current configuration.	31.12.2021	Step 1: The thickening equipment at material preparation was replaced in 2021. The target is postponed to 2022.

Thermal energy savings by increasing PM3 dewatering capacity.	A dewatering capacity enhancement project is being carried out on the PM3 screen. As a result of these CAPEX projects, the dry matter content of the paper at the wire-end of the screen will be higher (by about 0.5%), which will result in savings of about 1% for further steam drying.	31.12.2021	Based on the same period and looking at main items, a reduction of 0.5-1.0% in values of steam consumption per unit was achieved.
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6. ENVIRONMENTAL PROTECTION IN FIGURES

The following are the basic indicators and relevant sector-specific environmental performance indicators based on Regulation 1221/2009/EC of the European Parliament and of the Council:

		2019				2020				2021			
		A	B ¹	R ²		A	B ¹	R ²		A	B ¹	R ²	
PM3 + PM7 total	Headcount	360				360				348			
	Raw materials (t)	749 552	685 572	1,093	t/t	758 102	688 991	1,100	t/t	773 020	704 921	1,097	t/t
	- of this: primary (t)	-	685 572	-	-	-	688 991	-	-	-	704 921	-	-
	- of this: secondary (t)	749 552	685 572	1,093	t/t	758 102	688 991	1,100	t/t	773 020	704 921	1,097	t/t
	Additives (t)	39 286	685 572	0,057	t/t	40 398	688 991	0,059	t/t	43 447	704 921	0,062	t/t
	Water consumption (m³)	5 166 389	685 572	7,536	m³/t	5 388 479	688 991	7,821	m³/t	5 352 638	704 921	7,593	m³/t
	Heat energy (GJ)	2 609 802	685 572	3,807	GJ/t	2 615 301	688 991	3,796	GJ/t	2 745 382	704 921	3,895	GJ/t
	Electricity (MWh)	274 215	685 572	0,400	MWh/t	267 919	688 991	0,389	MWh/t	271 897	704 921	0,386	MWh/t
Biological diversity		515 604	1 004 713 ³	0,513	m²/m²	515 604	1 004 713 ³	0,513	m²/m²	515 604	1 004 713 ³	0,513	m²/m
Wastewater (m³)		5 006 410	685 572	7,303	m³/t	5 146 368	688 991	7,469	m³/t	5 046 769	704 921	7,159	m³/t
- COD (t) ⁴		1 028	685 572	1,500	kg/t	964,6	688 991	1,400	kg/t	845,9	704 921	1,2	kg/t
- Suspended solids (t) ⁴		233	685 572	0,340	kg/t	303,2	688 991	0,440	kg/t	239,97	704 921	0,34	kg/t
Biogas generation (m³)		8 492 612	685 572	12,388	m³/t	8 342 211	688 991	12,108	m³/t	9 970 291	704 921	14,144	m³/t
Non-hazardous waste - reject (bonedry t)		47 946	685 572	70	kg/t	50 613	688 991	73	kg/t	48 099	704 921	68	kg/t
Hazardous (kg)		82 440	685 572	0,120	kg/t	25 404	688 991	0,037	kg/t	37 529	704 921	0,053	kg/t
Environmental fines (HUF)		0				0				0			

¹ Net tonnage produced
² Calculated unit values
³ Total area
⁴ In the case of these indicators 2018 is the new reference year

Hamburger Hungária Kft.'s key environmental performance indicators satisfy Directive 2010/75/EU on industrial emissions, as well as the BAT conclusions concerning the use of paper for recycling in the reference document no. 2014/687/EU on the manufacture of paper.



7. ENVIRONMENTAL OBJECTIVES FOR 2022

Objective to achieve	Required action	Deadline
Water system optimisation, and closure of cooling water system at PM3	At PM3, the amount of industrial water used to cool the equipment is not used at the paper machine 3, mainly due to the increased cooling demand in the summer months, and this surplus is transferred to PM7, where it reduces the industrial water consumption required for PM7 operation. At site level, an annual saving of 0.2 m3/t of industrial water consumption can be achieved.	31.12.2022
Reducing energy consumption by rebuilding PM7 vacuum system - Ecopump	Phase I was approved and ordered in November 2021, and the remaining 2 phases are expected in 2022. Phase I installed in 2022 (main maintenance in April + then on-going during the maintenance works until the end of the year). Phase II, the installation of 2 equipments, is scheduled to be completed by the end of 2022. Expected result: energy savings of 7 kWh/t, spare capacity, no need to add spare units to the existing system.	31.12.2022
Objectives carried over from 2021		
PM3 noise abatement ΔLz= minimum 15dB (A).	Based on the noise assessment performed at Hamburger Hungária Kft.'s site in 2020, the main noise sources will be reduced in 4 phases between 2021 and 2028. In 2022, work will continue with the installation of silencers on the ceiling of the passageway (under the PM3 corridor).	31.12.2022
PM3 constant part energy use reduction.	The obsolete cleaner system in the current constant section will be completely eliminated and a much smaller, but thanks to today's technology, much more efficient vortex classifier system will be installed in the material preparation section. The necessary thickening equipment will be replaced by a modern type. This will reduce the energy demand of the complete cleaner system to 30% of the current consumption level. The replacement of the thickening equipment in the stock preparation plant was completed in 2021. The target will be postponed to 2022, as the elimination of the constant part cleaner system (step 2) will only be possible in the next main maintenance, as it requires a longer downtime (expected to be completed by the first half of 2022).	30/06/2022

8. ADDITIONAL INFORMATION AND CONTACTS



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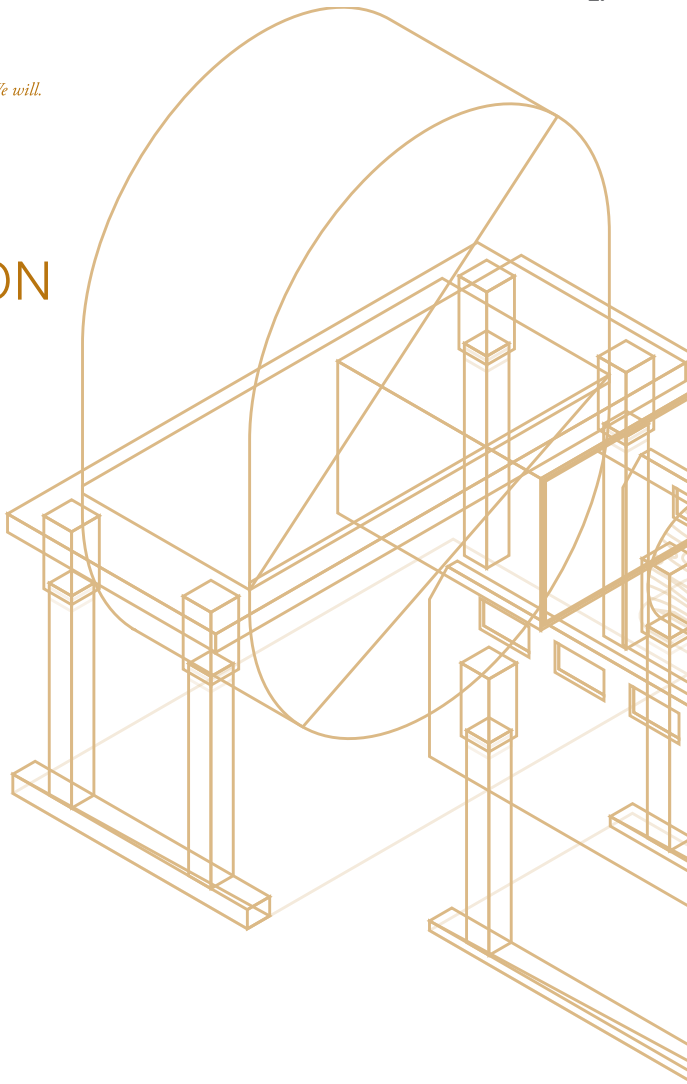
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9. STATEMENT BY THE VERIFIER

Statement by the Verifier

STATEMENT BY THE ENVIRONMENTAL VERIFIER ABOUT VERIFICATION AND ENFORCEMENT

Mrs Katalin File Moravcsik of ÉMI-TÜV SÜD Kft.

EMAS environmental verifier registration number: **HU-V-0001/2017**

accredited to perform audits and verification in the following area: C17 Manufacture of paper and paper products (NACE)

declares to have verified whether the organization specified in the organization's ~~environmental statement~~ / updated environmental statement

**Hamburger Hungária Kft.
H-2400 Dunaújváros, Papírgyári út 42-46.**

registration number: **HU-000002**

has fulfilled all the requirements set down in Regulation (EC) No. 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), Regulation 2017/1505/EU and Regulation 2018/2026/ EU of the European Parliament and of the Council.

By signing this statement, I confirm that:

- The implementation ~~of the verification and~~ of the validation fully complies with the provisions of Regulation 1221/2009/EC, Regulation 2017/1505/EU and Regulation 2018/2026/EU,
- The findings ~~of the verification and~~ of the validation confirm that nothing suggests that the organization does not fulfil the statutory legal regulations in force with respect to the environment,
- the data and information provided in the ~~environmental statement~~/updated environmental statement(*) made by the organization/site(*) give a reliable, true and accurate view of all the activities of the organization/site(*) within the scope of application defined in the environmental statement.

This document is not equivalent to registration under the EMAS. Registration under the EMAS may only be performed by bodies competent under Regulation 1221/2009/EC. This document may not be used as a separate public statement.

Dated: 23/03/2022

Signature





(*) Strike through as appropriate.