



Hamburger Containerboard  
PRINZHORN GROUP

*We will.*

# ENVIRONMENTAL STATEMENT 2019

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



**EMAS**

Hitelesített  
környezetvédelmi  
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## 1. DESCRIPTION OF THE ORGANIZATION

### 1.1. THE PRINZHORN GROUP



Wilhelm Hamburger



Cord Prinzhorn

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 factory in Austria in 1853. By today his descendants have turned the factory into a large international corporation employing 6,600 people in 15 countries under the name Prinzhorn Holding. Dunapack Co. 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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GROUP



At the beginning of the fully integrated process, Hamburger Recycling Hungary Ltd, representing the Recycling Division of the Prinzhorn Group, collects paper and other waste, which is then recycled in Hamburger Hungaria’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 2019 Environmental Statement of the company only applies to the manufacture of paper and paperboard – as per NACE 17.12.

## 1.2. HAMBURGER HUNGARIA LTD

Hamburger Hungaria Ltd'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 net
- water supply and the water supply network
- drainage and wastewater treatment
- condensate collection
- railway network



*Hamburger Hungaria'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 499,000 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 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. The industrial railway track leading to the site is suitable for meeting the company's rail transport needs.

## 1.3. DESCRIPTION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM

Hamburger Hungaria 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*



## 2. DESCRIPTION OF MANUFACTURING

The paper manufacturing activity performed at Hamburger Hungaria'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

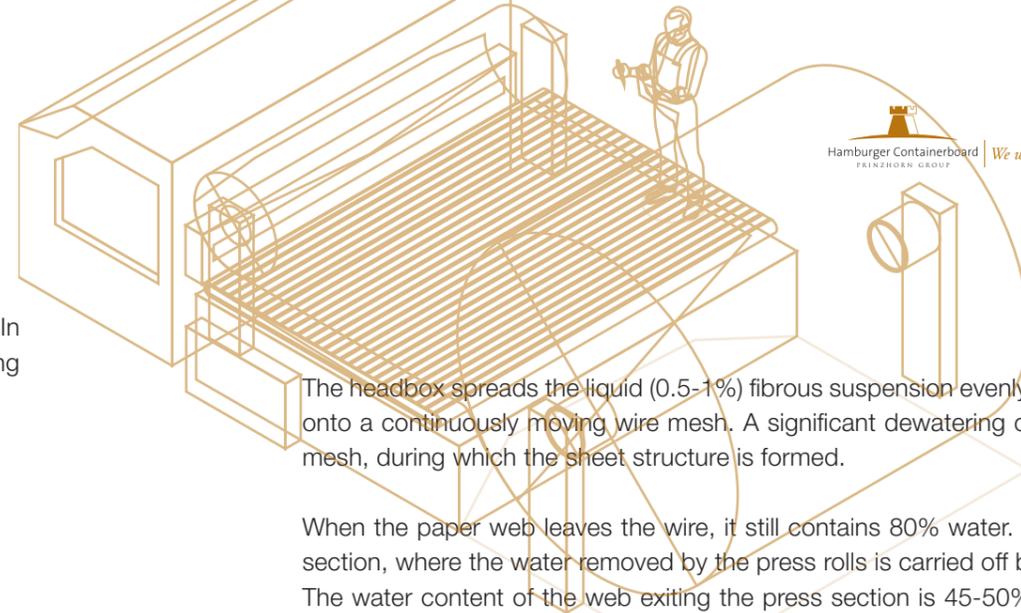
The papermaking process entails three main technological phases.

#### 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

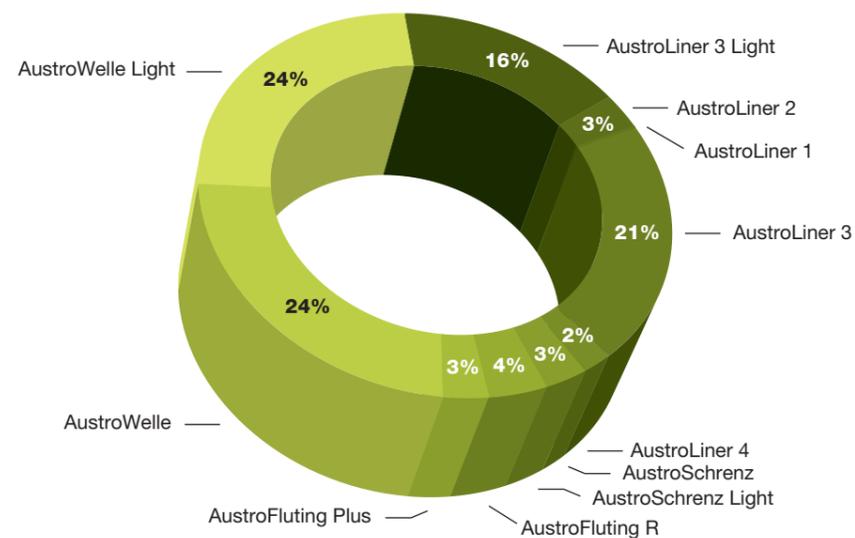
## 2.2. PRODUCTION

At the site of Hamburger Hungaria, PM3 operates with a capacity of 249,000 tonnes per annum and PM7 with a capacity of 499,000 tonnes per annum. The paper machines produce primarily containerboard, including linerboard and corrugating medium (or fluting) with a surface weight of 70-175 g/m<sup>2</sup>, 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:



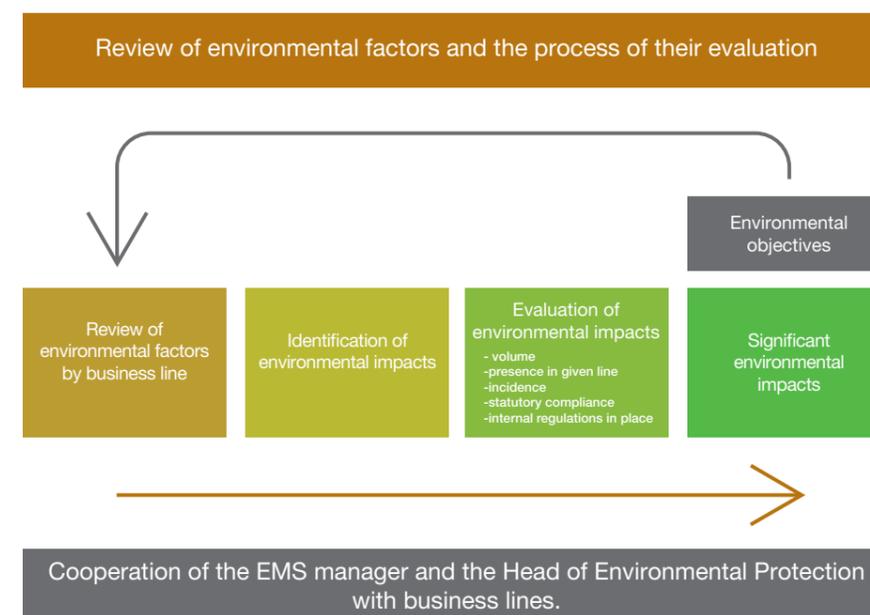
In 2019, the two paper machines manufactured various kinds of paper used as raw material for corrugated boxes in a product assortment similar to previous years. Exclusively (100%) waste paper was used as the raw material for production, and 83% of the manufactured goods were sold on export markets.

The volume of manufactured products amounted to 685,572 tonnes, and their distribution by paper grade is shown in the following chart. (green 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 2019, 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.



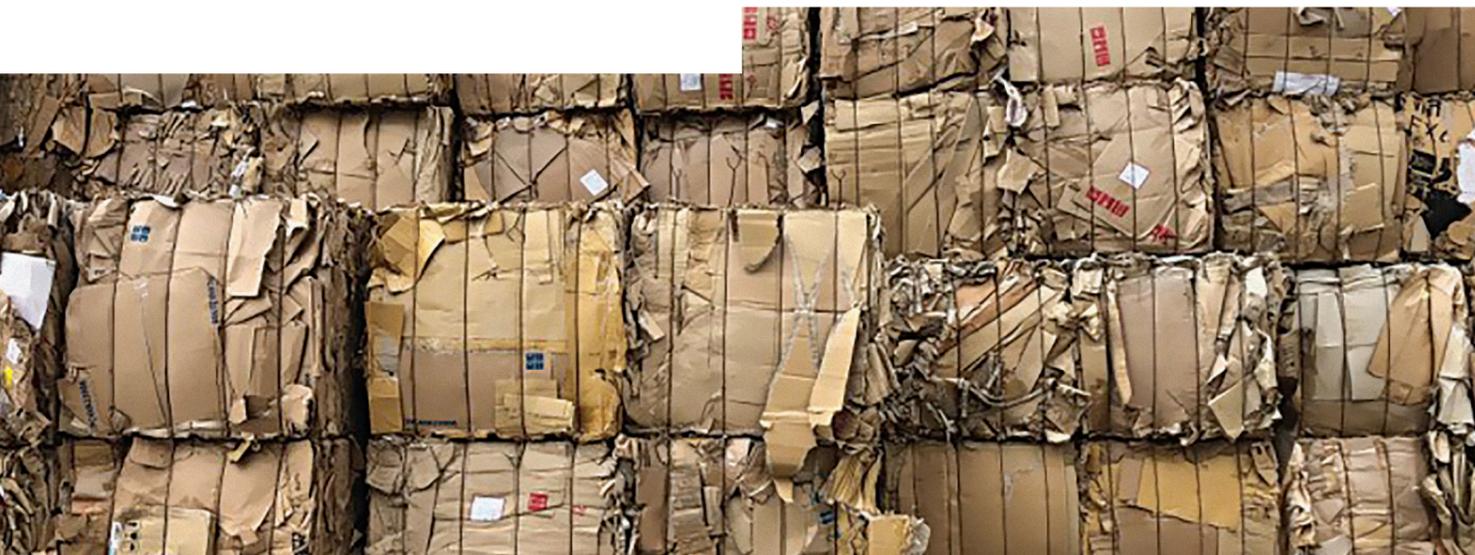
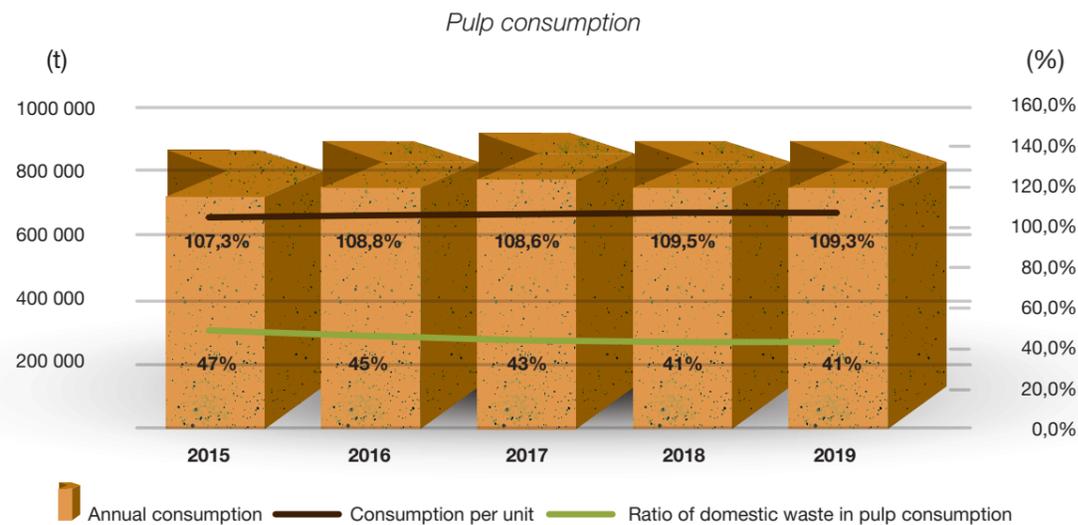
### 3.1. WASTE PAPER USE

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 311,046 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 41%. 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 11,619 tonnes in 2019, representing 1.7% of the net amount of paper manufactured.

The following diagram shows waste paper consumption data.



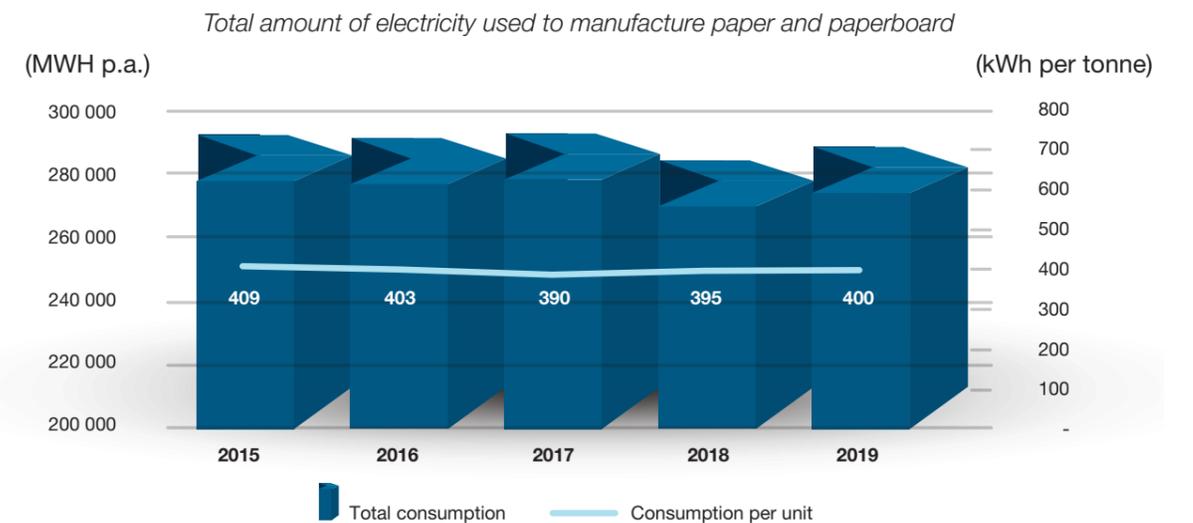
### 3.2. ENERGY MANAGEMENT

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 50001:2011 standard.

Last year the total unit consumption of electricity for paper manufacturing was broadly constant, increasing by a mere 1%.

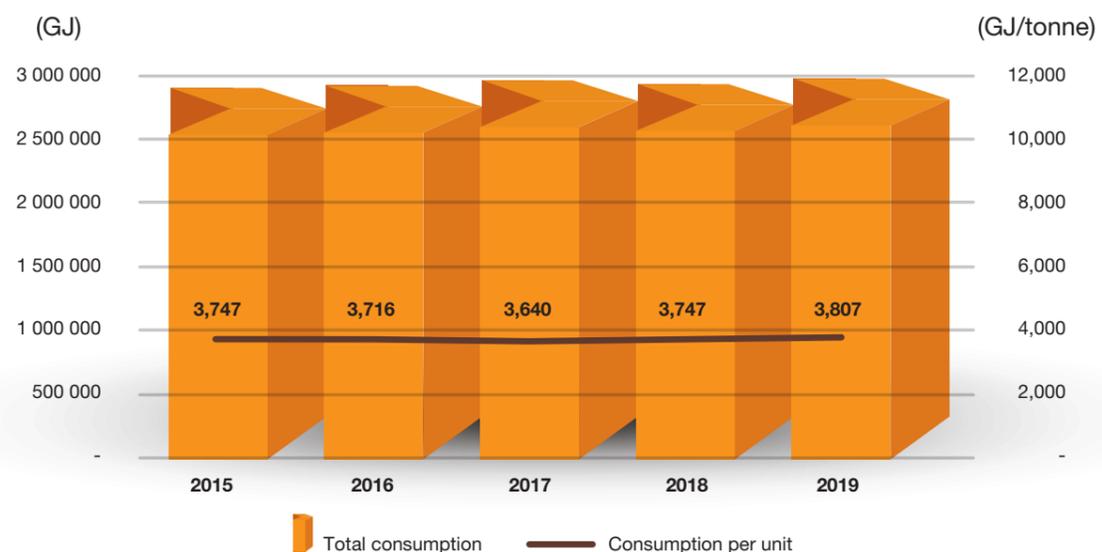


This very slight increase was caused by technical changes in paper machine no. 3. In an effort at reducing contamination to improve paper quality, new sorting and cleaning equipment was commissioned.

This equipment temporarily increases unit electricity consumption since, in order to lay the basis for the increased production capacity planned in the near future, the machines are capable of higher output. The following diagram shows data for total thermal energy consumption in papermaking. Our unit thermal energy consumption was up 2% on the previous year.

The increase in unit values is caused by a change in the product structure: the average volume of finished products per square metre has increased by 2% and 1% for PM7 and PM3, respectively, and this requires additional thermal energy during the manufacturing process.

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: 8,492,612 m<sup>3</sup>
- + amount used: 8,459,682 m<sup>3</sup>
- + Volume of flared gas: 32,930 m<sup>3</sup>

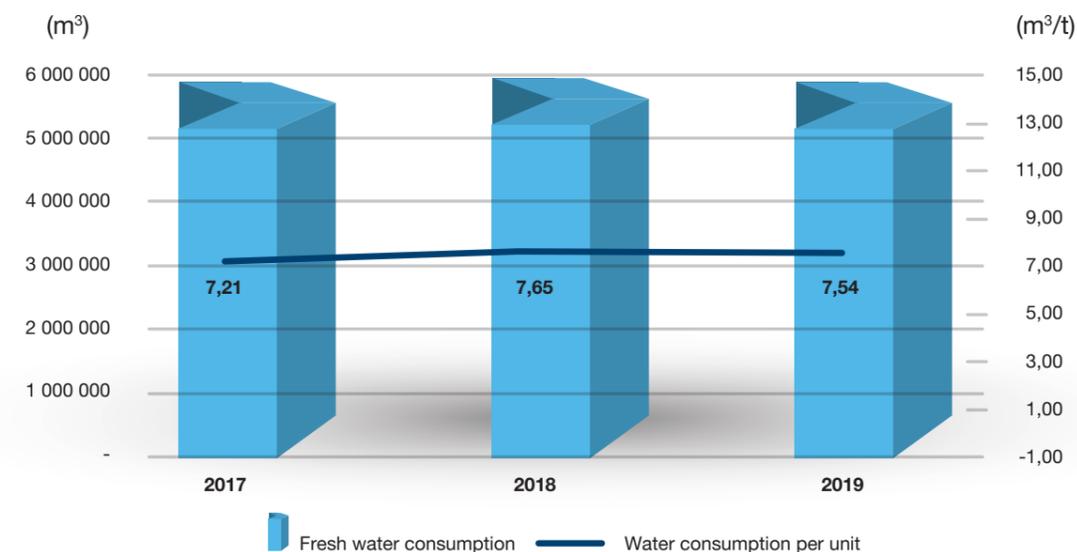
The amount of the generated biogas was similarly high to the previous year. According to the test record made on 28/11/2019, the composition of purified biogas was typically the following: 65% methane, 33% carbon dioxide and 2% other gases.

### 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 dropped by 1% on the previous year.

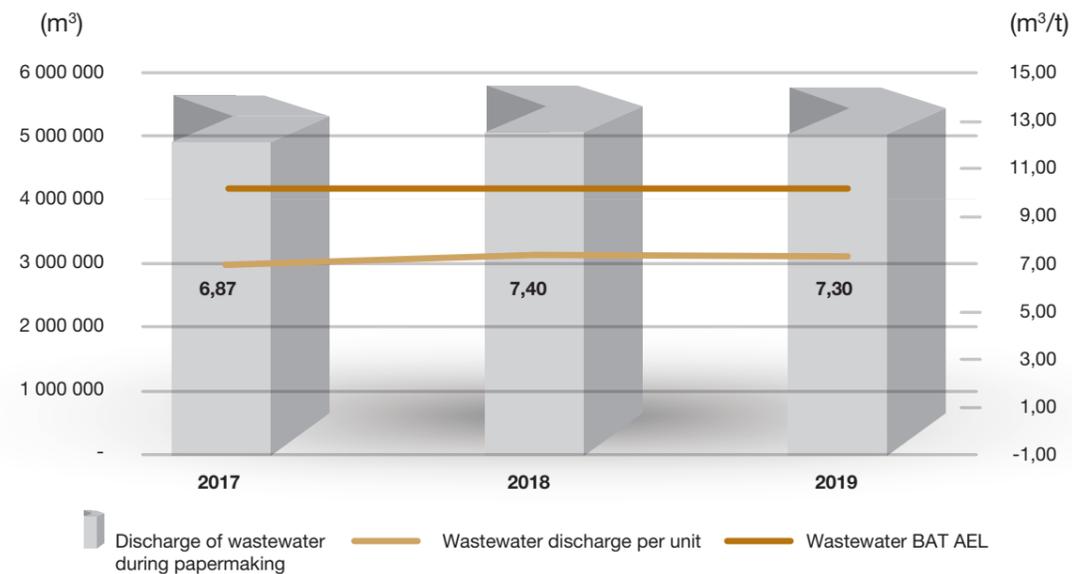
Fresh water used in paper manufacturing



Wastewater is treated in the modern, two-phase biological wastewater treatment plant operated by Hamburger Hungaria Ltd. Similarly to fresh water consumption, the volume of wastewater generated during paper manufacturing decreased on the previous year. Its unit value was 7.30 m<sup>3</sup>/t, considerably below the value recommended under the best available technology (10 m<sup>3</sup>/t).



Discharge of wastewater during papermaking



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	2017	2018	2019
		mg/l		
Volume of used dichromate oxygen (CODk)	685	106	98	119
Five-day biochemical oxygen demand (BOD5)	50	7,5	6	14
Total suspended solids	200	16	16	17
Adsorbable organic halides	1,643	0,203	0,152	0,064
Total amount of inorganic nitrogen	10	6,94	4	2,83
Total amount of phosphorus	2	1,29	0,65	0,89
Toxicity	-	0,12	-	-

We submitted our self-monitoring plan again in 2018, after modification of our licence to operate the plant under water law. This was approved by the competent water management authority in its resolution under general file no. 35700/7912/2018.

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.

For this very reason, in respect of the relevant key environmental indicators (the emission of suspended solids and COD), the year 2018 can be considered a new reference year, incomparable with the performance levels of previous years. For the evaluation of our related indicators, see Section 6.

### 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

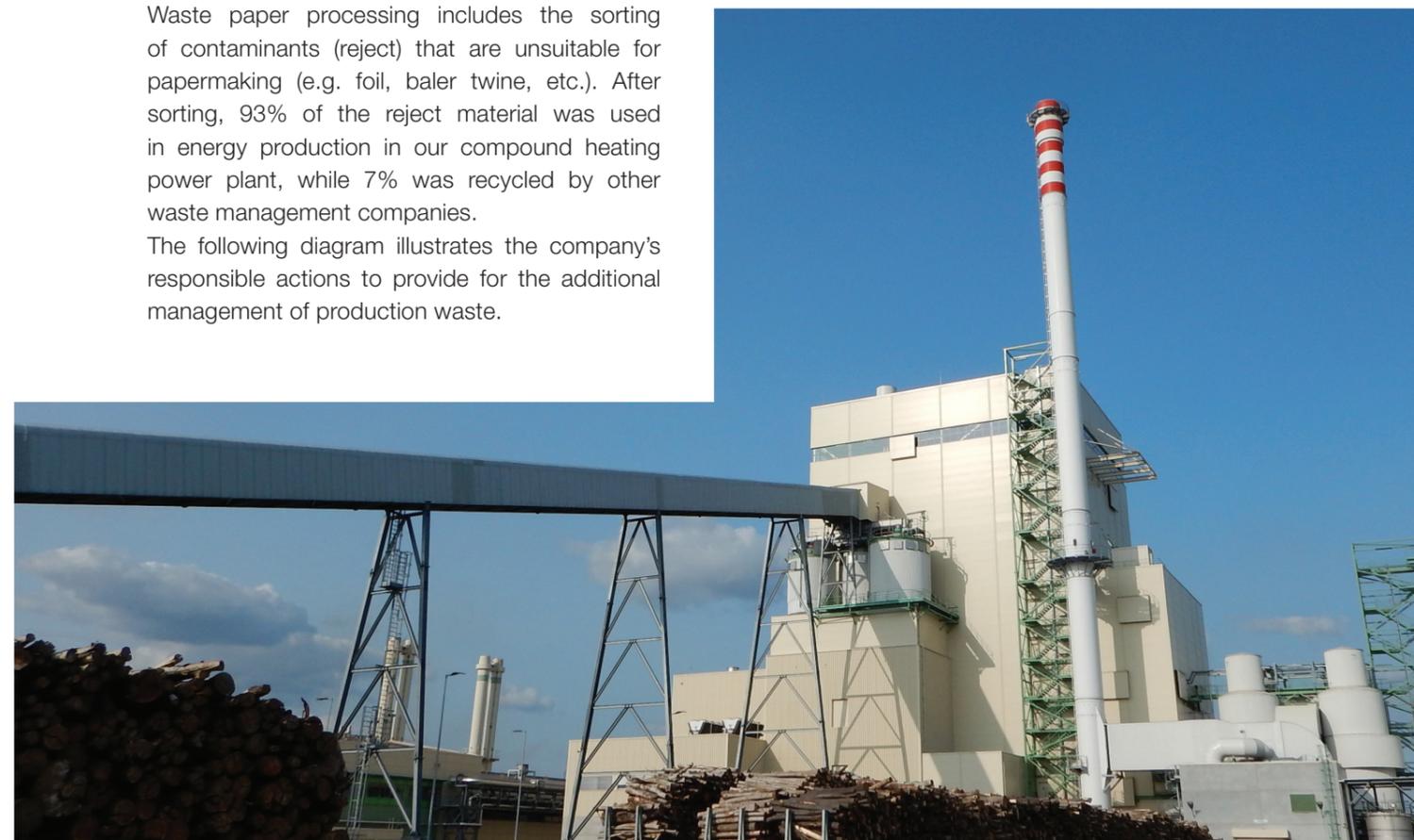
In order to prevent all kinds of soil contamination, the methods of storing, moving and using hazardous substances used in the course of production are tightly regulated, and potentially contaminant containers are appropriately protected and equipped with emergency basins.

The groundwater table tests specified in the operating licence under water law were performed monthly in the groundwater control wells. A basic FAVI report and notices of changes regarding hazardous waste containers located on the site were also performed.

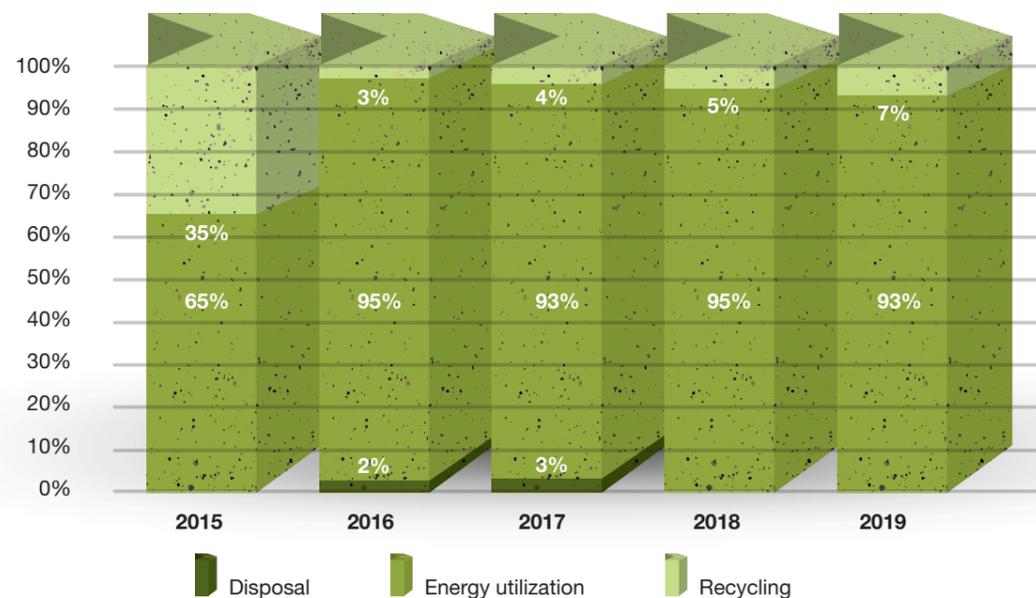
### 3.6. WASTE MANAGEMENT

Waste paper processing includes the sorting of contaminants (reject) that are unsuitable for papermaking (e.g. foil, baler twine, etc.). After sorting, 93% of the reject material was used in energy production in our compound heating power plant, while 7% 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.

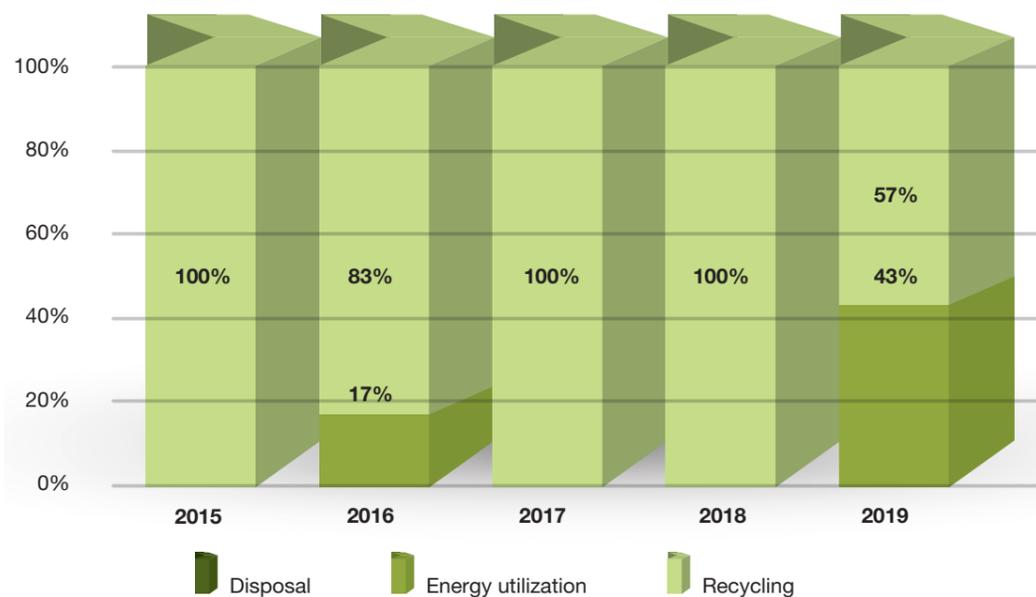


Distribution of the delivered reject according to the method of utilization



Following removal from the wastewater treatment plant, 57% 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 (43%) is transferred to a waste manager who can dispose of it after preliminary treatment. Our short-term 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 2019, 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. In 2014 we had an accredited and authorized company assess the noise emitted by the paper machines (noise load), and as a result, the following values can be reported:

	To the north	Limit
During the day (dB)	50	57
At night (dB)	45	47

\*At the time of issue of our uniform environmental license under file no. 59607/2015 (due to the combination of paper machines PM3 and PM7), the noise emission limit applicable to the site changed.

Based on a test, the noise emitted by the facility met the required values set down in the relevant provisions.

### 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. Last year 258 m<sup>3</sup> of gaseous fuel was consumed.

Our own fuel oil filling station was commissioned on the territory of the paper mill in 2016, and in 2019 the recorded consumption of fuel oil was 421 m<sup>3</sup>.

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. 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)

The competent regional environmental and water management authorities conducted the following on-site inspections in 2019:

**20 March 2019**

Annual IPPC inspection of PM3 and PM7 by the supervisory authority

**30 April 2019**

Annual inspection of the sludge disposal facility by the supervisory authority

**11 April 2019**

Annual IPPC inspection of the power plant

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

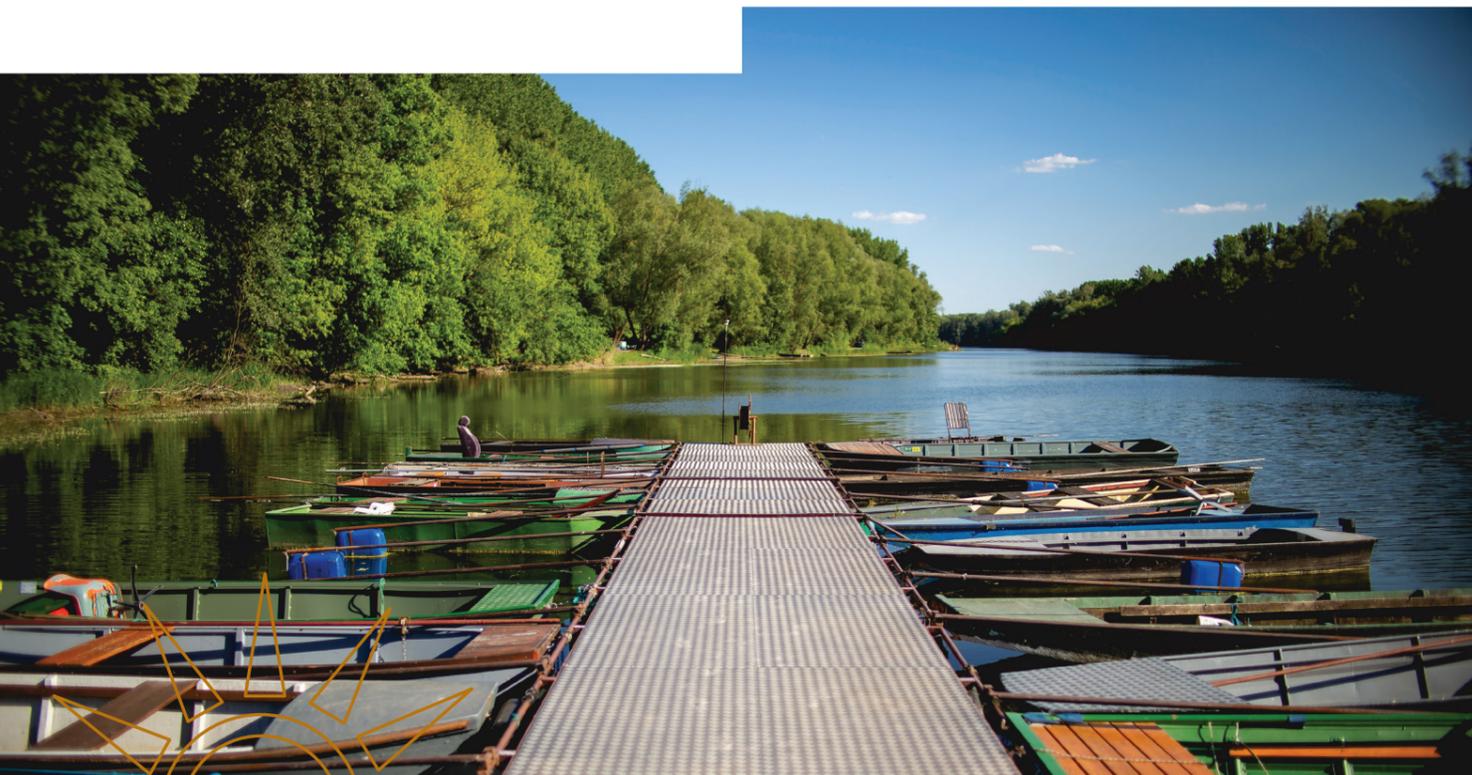
The most significant directives of the European Union and Hungarian statutes related to our activity include the following:

- § 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 2019 ENVIRONMENTAL PROGRAMME

Objective	Action	Deadline	Evaluation
Expansion of the aerobic line of the wastewater treatment facility in order to eliminate capacity bottlenecks	In 2017 the project was planned in detail and the authorization procedure was launched. Implementation of the main elements of the project was completed in 2018.	31/12/2019	After separation of the two neighbouring companies' industrial wastewater, our objective is the optimum utilization of the treatment capacity thus freed up. The project concept was developed in 2017, and the individual steps of the project were implemented in 2018. The new technological line was commissioned and fine-tuned in 2019. The new system thus developed can now efficiently treat the quality and quantity parameters of the changed wastewater.
Reducing the risk of oil leakage by replacing the central lubrication system of PM3	The project includes the following main tasks: – Increasing the number of lubrication points, expanding lubrication to the cylinders in the dryer section (regulated oiling instead of manual lubrication by grease); – replacement of corroded pipe sections;	31/12/2019	The project was implemented in 2019, and the new equipment was commissioned. In this way, we managed to reduce the environmental risks involved in the activity.
Reducing the use of chemicals in the water preparatory system of the power plant, through a 20% cut in the average number of regenerations	By preheating raw water, the ion exchange system becomes more efficient, the treatment capacity of the system increases and the number of required regenerations drops.	31/12/2019	The project was implemented. A comparison of the conditions of operation before and after the project shows that an improvement of at least 10-15% has been achieved in the use of chemicals by pre-heating raw water. If the winter is colder, the utilization of waste heat from the biogas engines may result in even more significant savings.

Objective	Action	Deadline	Evaluation
Ensuring opportunities for additional recovery of utilizable residual pulp.	In order to recover utilizable pulp from the wastewater treatment plant, a separate line will be developed for treating communal wastewater. It will thus be treated separately from industrial wastewater, while not limiting the opportunity to further utilize the generated sludge.	31/12/2020	The implementation works of the communal wastewater treatment line are in progress, with commissioning of the system expected in the first half of 2020.
Reduction of the environmental risks arising from the use of loaders	We intend to reduce environmental risk by the establishment of a car wash for heavy-duty machines and vehicles.	31/12/2019	The implementation works of the new car wash were carried out in 2019, the new facility was commissioned and its use launched. The objective to cut risks can thus be considered fulfilled.



## 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:

	2018				2019			
	A	B <sup>1</sup>	R <sup>2</sup>		A	B <sup>1</sup>	R <sup>2</sup>	
Headcount	360				360			
Raw materials (t)	748 313	683 185	1,095	t/t	749 552	685 572	1,093	t/t
- of this: primary (t)	-	683 185	-	-	-	685 572	-	-
- of this: secondary (t)	748 313	683 185	1,095	t/t	749 552	685 572	1,093	t/t
Additives (t)	37 857	683 185	0,055	t/t	39 286	685 572	0,057	t/t
Water consumption (m <sup>3</sup> )	5 223 659	683 185	7,646	m <sup>3</sup> /t	5 166 389	685 572	7,536	m <sup>3</sup> /t
Heat energy (GJ)	2 559 943	683 185	3,747	GJ/t	2 609 802	685 572	3,807	GJ/t
Electricity (MWh)	269 710	683 185	0,395	MWh/t	274 215	685 572	0,400	MWh/t
Biological diversity	453 296	942 405 <sup>3</sup>	0,481	m <sup>2</sup> /m <sup>2</sup>	515 604	1 004 713 <sup>3</sup>	0,513	m <sup>2</sup> /m <sup>2</sup>
Wastewater (m <sup>3</sup> )	5 053 018	683 185	7,396	m <sup>3</sup> /t	5 006 410	685 572	7,303	m <sup>3</sup> /t
- COD (t) <sup>4</sup>	1 708	683 185	2,500	kg/t	1 028	685 572	1,500	kg/t
- Suspended solids (t) <sup>4</sup>	451	683 185	0,660	kg/t	233	685 572	0,340	kg/t
Biogas generation (m <sup>3</sup> )	9 152 714	683 185	13,397	m <sup>3</sup> /t	8 492 612	685 572	12,388	m <sup>3</sup> /t
Non-hazardous waste - reject (bonedry t)	45 716	683 185	67	kg/t	47 946	685 572	70	kg/t
Hazardous (kg)	43 335	683 185	0,063	kg/t	82 440	685 572	0,120	kg/t
Environmental fines (HUF)	0				0			

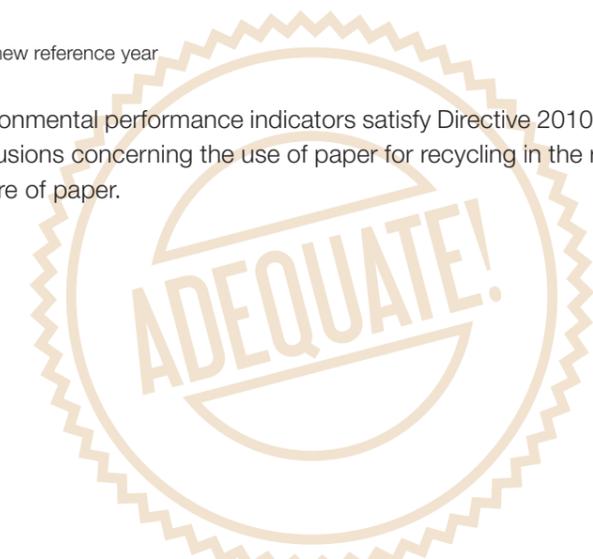
<sup>1</sup> Net tonnage produced

<sup>2</sup> Calculated unit values

<sup>3</sup> Total area

<sup>4</sup> 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 2020

Objective to achieve	Required action	Deadline
Maximum utilization of the waste processing capacity of the fuel preparation facility	Maximization of the amount of waste fuel utilizable for energy through reducing lost time and optimization measures (target date: Q4 2019)	31/12/2020
Increasing the utilization ratio of the delivered wastewater sludge	-Creation of the opportunity for agricultural utilization - Recycling by other waste managers (looking for new partners)	31/12/2020
Decreasing energy consumption by the fixed elements of PM3	The obsolete cleaner system currently located in the fixed part of the machine will be completely eliminated, and a considerably smaller but – thanks to the current technology – far more efficient rotary sorter system will be installed in the machine for the preparation of feed material. The required decker will be replaced by a modern type. The energy required for the complete cleaner system will thus drop to about 30% of the current demand.	31/12/2020
Saving heat energy through increasing the dewatering capacity of the PM3 machine.	A dewatering capacity-increasing project was implemented in the wire section of PM3. As a result of the CAPEX projects, the dry matter content of paper at the end of the wire section will be higher (by approx. 0.5%), resulting in a saving of about 1% during additional steam drying.	31/12/2020

### Objectives carried over from 2019

Ensuring opportunities for additional recovery of utilizable residual pulp	In order to recover utilizable pulp from the wastewater treatment plant, a separate line will be developed for treating communal wastewater. It will thus be treated separately from industrial wastewater, while not limiting the opportunity to further utilize the generated sludge.	31/12/2020
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## 8. ADDITIONAL INFORMATION AND CONTACTS

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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: 31/03/2020

Signature



(\*) Strike through as appropriate.