



Hamburger Hungaria  
Containerboard

| *We will.*

# *Sustainability*

OUR BUSINESS MODEL AND PHILOSOPHY








## OUR BUSINESS PHILOSOPHY IS CENTERED AROUND THE ENVIRONMENT AND PEOPLE

As a member of the Austrian Prinzhorn Group, Hamburger Hungaria Ltd is one of the leading corrugated base paper manufacturers in Europe. The company started production in 1976.

The environmental investments of the Prinzhorn Group enabled modernization and convergence of technologies, based on which today **we produce 700,000 tons of brown containerboard** annually.

Only secondary raw material, i.e. **paper for recycling** is used for production. The quantity of waste paper used for production constitutes more than 80% of the paper produced in Hungary.



*Sustainability is the basis of our business model, pairing 40 years of tradition with state-of-the-art technology.*

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## CIRCULAR ECONOMY – creating value from waste

The family-owned Prinzhorn Group is Europe's third largest company group in the field of recycling and the production of paper and packaging materials. The three Hungarian companies of the Group set out to implement a unique environmentally friendly and energy efficient industrial and business cycle.

The fully integrated process begins with collecting paper and other waste by Duparec – representing the Recycling Division of the Prinzhorn Group –, then the Dunaújváros facility of Hamburger Hungaria recovers the collected waste paper and produces excellent quality corrugated base paper, which Dunapack uses to produce first-class packaging materials. The activities of the three companies complement each other, and create a circular economic model that is sustainable in the long run as well. The production process starting with the recovery of waste paper ends up in the production of modern packaging materials.



### IN 25 YEARS WE HAVE BECOME MARKET LEADERS OF THE REGION

*The Group joined the rich history of the Dunaújváros paper industry in 1990. The new owner's efforts are demonstrated by developments worth more than 500 million euros implemented in the last decade, resulting in Hamburger Hungaria becoming one of the most modern and biggest paper mills in Europe with an annual production of 300 million euros.*



## WE CREATE VALUE OUT OF WASTE



## PRODUCTS OF HAMBURGER HUNGARIA

Hamburger Hungaria is specialized in the production of light-weight medium and liner grades:

<i>AustroLiner 3 Light</i>	90–110 g/m <sup>2</sup>
<i>AustroWelle Light</i>	80–95 g/m <sup>2</sup>

Corrugating liners:

<i>AustroLiner 1</i>	120–140 g/m <sup>2</sup>
<i>AustroLiner 2</i>	120–150 g/m <sup>2</sup>
<i>AustroLiner 3</i>	120–170 g/m <sup>2</sup>

Fluting mediums:

<i>AustroFluting Plus</i>	110–175 g/m <sup>2</sup>
<i>AustroFluting R</i>	110–175 g/m <sup>2</sup>
<i>AustroWelle</i>	100–175 g/m <sup>2</sup>

Schrenz papers:

<i>AustroSchrenz</i>	100–120 g/m <sup>2</sup>
<i>AustroSchrenz Light</i>	90 g/m <sup>2</sup>





## TECHNOLOGY PARAMETERS OF THE PAPER MILL

PAPER MACHINE 3		PAPER MACHINE 7
210.000 t	annual production	490.000 t
432 cm	width	780 cm
max. 950 m/minute	machine speed	max. 1500 m/minute
90—175 g/m <sup>2</sup>	basis weight	70—150 g/m <sup>2</sup>

Hamburger Hungaria is specialized in the production of lightweight medium and liner grades:

## SUSTAINABILITY AND GREEN TECHNOLOGY PAIRED WITH EXCELLENT QUALITY

Our plant is an excellent example to prove that sustainable green operations and achieving the highest quality are not incompatible with each other. Our integrated management system accredited by certification bodies include quality management, work safety, protection and environmental protection activities as well as energy management.

As part of Eco-Management and Audit Scheme EMAS, we annually release an environmental statement on our achievements in the field of environmental protection.

As member of the Prinzhorn Group's Containerboard Division, we also acquired the FSC® (Forest Stewardship Council® FSC® C106599) certification for sustainable forest management.





INSTEAD OF LANDFILLS, THE WASTE PAPER IS RECYCLED AT OUR PAPER MILL

*The paper mill of Hamburger Hungaria creates value out of waste paper instead of disposing it in incineration plants or landfills. Waste paper fibers can be recycled six times a year, which enables major primary raw material savings through a well-organized collection system. Thus, it is worth collecting waste paper selectively.*



## THE ROLE OF A MARKET LEADER ALSO INVOLVES RESPONSIBILITY

For us, cooperating with professional organizations is synonymous with the promotion of the paper industry's interests.

The Prinzhorn Group is the key actor of the domestic paper manufacturing market, therefore, the company is involved in a number of advocacy activities. Relying on its experience in the industry, Hamburger Hungaria cooperates with CSAOSZ (National Association of Packaging and Material Handling), MGYOSZ (Confederation of Hungarian Employers and Industrialists) and the Confederation of European Paper Industries (CEPI) regarding their activities related to decision-making preparation work.

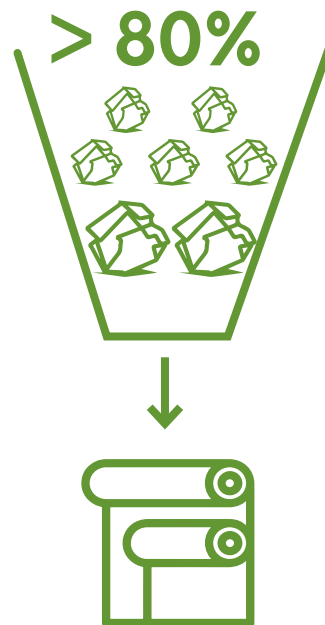
Our involvement with the activities of professional bodies gives us the opportunity to represent the interests of the paper industry, contribute with our opinions to the lawmaking process and gain precious insight into sustainability issues and challenges relevant for the whole sector.



## WERE IT UP TO US, WE WOULD RECOVER ALL THE WASTE PAPER IN HUNGARY

Due to the efforts and with the cooperation of the Hungarian companies of Prinzhorn Group – primarily Duparec and Hamburger Hungaria – we manage to recover **more than 80% of the waste paper collected in Hungary**, which means significant Group contribution to Hungary to achieve the EU objective for recycling.

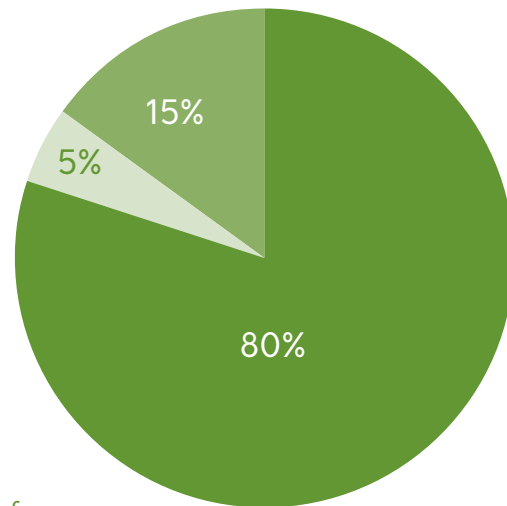
Unfortunately, the collection rate of waste paper in Hungary is lower than the European average . Hamburger Hungaria has at its disposal a much greater capacity than is currently utilized, and – in order to ensure economical operation – the company can only cover 45% of its waste paper demand from the current Hungarian collection. If it were possible, we would collect and recover all the waste paper in Hungary, since waste paper collected locally is cheaper and the environmental impact of its recovery is significantly lower than in the case of imported waste paper.





## WE RECOVER 95% OF THE WASTE GENERATED DURING PRODUCTION

- Energetic utilization: 80%
- Utilization as material: 15%
- Disposal: 5%



*Not only the production phase itself, but the whole of production process is characterized by recovery, as 95% of the waste generated during production is further recovered. The majority of the waste is utilized in our power plant for energetic purposes.*

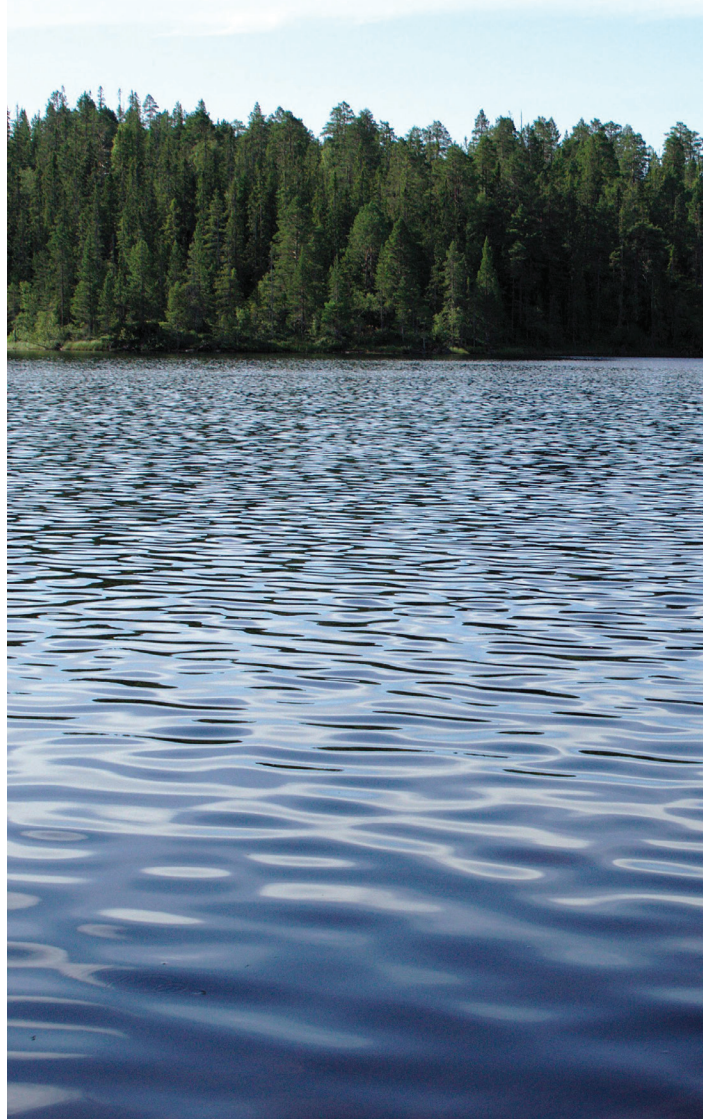
# 10 |

## CLEAN WATER IS RELEASED INTO THE DANUBE

By means of our modern wastewater treatment plant, the water used for production is returned to nature just as clean as it was taken.

The water demand of the paper industry is extremely high. When it comes to environmental aspects, it is a huge challenge to establish a sustainable water management system. The water utilization model introduced by Hamburger Hungaria is in compliance with the highest technological expectations.

Thanks to our model, the natural water demand of the paper mill has not increased since 2015. **Projected to one ton of paper produced, our water use has not exceeded the value of 7 m<sup>3</sup>/t in the course of recent years, while the reference value for the best available technologies in the industry is as high as 10 m<sup>3</sup>/t.**





## WE ARE ALSO LEADING EDGE IN WASTEWATER MANAGEMENT

Due to the significant water demand of paper production, it is of utmost importance to reduce the consumption of fresh water and the volume of released treated water by the recycling of waters with high fiber content. In order to achieve this, we continuously set out to modernize our wastewater management process.

Our paper mill has its own wastewater treatment plant where the released wastewater is treated in a two-phase biodegradation system. Regulatory reviews support the fact that the quality of the released water is more favorable than the prescribed limit value, moreover, it is in compliance with the requirements posed by “Best Available Techniques” in all respects.

We set out to reach the top in this field as well so that we can be role models for all nearby industrial facilities.



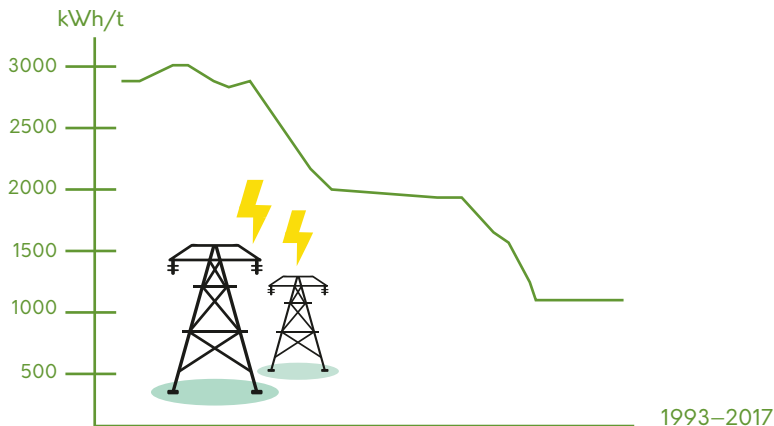
### WE PLAN TO DEVELOP GREEN TECHNOLOGY FURTHER

*Due to the investments of recent years, wastewater management does not only constitute a cost for our company, but it is also a new way to create value, as biogas originating from wastewater treatment can be utilized in our interconnected power plant, and we are able to produce certifiably green energy by biogas engines.*

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## WE USE HALF AS MUCH ENERGY AS WE DID 20 YEARS AGO

Due to continuous technological and energy efficiency developments, we use approximately half the amount of energy for the production of one ton of product compared to 20 years ago. Specific energy and thermal energy consumption of the paper machines are shown in the diagram below.



OUR FACTORY'S CHIMNEYS DO NOT  
EMIT ANY SMOKE

*To minimize the environmental impact, modern exhaust gas cleaning equipment is operated in the power plant, consequently, exhaust gas virtually remains unnoticed for the residents of nearby settlements. 97% of waste – slag, fly ash, metal, plastic – generated by the operation of the power plant is recycled, for example, in recultivation or road construction.*





## WE USE ENERGY PRODUCED BY OUR OWN POWER PLANT

In order to increase the waste recycling rate and self-sufficiency, in 2016, following a 150 million euro investment, we put into service our own power plant which can also utilize raw materials obtained from domestic waste. Our high-tech power plant has the capacity to produce 158 MW of thermal energy and 42 MW of electricity ensuring the plant's energy self-sufficiency for the operation of the paper mill as well as promoting the utilization of residual waste from paper production that was previously disposed at landfill sites.



## WE ARE RESPONSIBLE FOR MORE THAN 400 EMPLOYEES

We currently have more than 400 employees in Dunaújváros. Our priority is to provide the safest and best possible work environment for our colleagues – a civilized working environment, stability, competitive salary and benefit system, modern workwear, continuous training for work safety and first-aid, regular health screening, sports activities and preferential use of recreational opportunities. We also plan to establish our own physician's and dentist's surgery as well as a company nursery.

## DEVELOPMENT, PROGRESS, GAINING INTERNATIONAL EXPERIENCE IN 15 COUNTRIES

Trainings within the company group and education of our managers at sister companies are key factors in the appreciation of workforce. We support human capital regarding managerial positions through manager development in addition to professional training and multi-level English courses. We make use of the international opportunities within the company group. The options to join long-term projects or spend a couple of weeks abroad working on individual projects, with attractive career development opportunities while getting to know different countries and cultures are available in 15 countries and in 13 language environments. Consequently, those who decide to work with Hamburger Hungaria can expect a long-term career as our company offers a career development scheme for its colleagues.





## SOCIAL RESPONSIBILITY IN THE LOCAL COMMUNITY

One priority within the corporate culture of Hamburger Hungaria is to give back as much as possible to the local communities in which we work. As one of the most significant economic players of the region, we feel a responsibility toward the people who live here – and especially the residents of Dunaújváros. Supporting culture and education is a responsibility especially close to our hearts. We make great contributions to the operations of several educational and non-profit institutions in Dunaújváros, contribute to the successful organization of several major regional events, and to several smaller village fairs and festivals. The company open days and family days are visited not only by our coworkers' families but also by everyone living in the area. We also pay special attention to healthcare, and in this spirit, we regularly make contributions to help modernize Saint Pantaleon Hospital in Dunaújváros. Moreover, we strive to be a supportive force in the field of sports and youth training.



## SUSTAINABILITY AND ENVIRONMENTAL PROTECTION ARE OUR CORE VALUES, and we expect the same from our partners

We at Hamburger Hungaria do not only set out to reduce our direct environmental impact, but to the extent possible, we wish to reduce and turn into positive the indirect environmental effects caused by our sub-contractors and suppliers.

When choosing our partners, we favor local enterprises committed to be environmentally friendly, and who are aware of their responsibility for the environment. Our suppliers are expected to contribute to the reduction of the environmental impact caused by their activities.



### VISITOR CENTER AND PAPER MUSEUM

*Visitors of our Visitor Center and Paper Museum can gain insight into the sustainable economic cycle of the company's operation, as well as see a large number of peculiarities and extraordinary items of the international and domestic history of paper industry.*



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