

UPM Augsburg

ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY **2019**



UPM Augsburg

Founded in 1849, UPM Augsburg is sited near the city centre of Augsburg. The mill with a workforce of some 334 people produces up to 360,000 tonnes per annum of uncoated and coated supercalendered printing paper in reels, which is mainly used for magazines, advertising supplements, publicity booklets, sales literature and mail order catalogues.

In addition to recovered paper and pigments, virgin fibres such as groundwood pulp and chemical pulp from sustainable forestry are used as raw materials for paper production. The water required for the production process comes from deep wells on the mill site. The effluents are cleaned in Augsburg’s municipal treatment plant. The steam required for the papermaking process is generated in a combined heat and power plant operating on natural gas. The mill’s power needs are supplied via the national grid.

The Augsburg site is also home to the head office of UPM Communication Papers and its functions.



UPM Augsburg Environmental and Societal Responsibility 2019 is a supplement to the Corporate Environmental and Societal Responsibility Statement of UPM’s pulp and paper mills (available at www.upm.com) and provides mill-specific environmental and societal performance data and trends for the year 2019. The annually updated mill supplements and the UPM Corporate Environmental and Societal Responsibility Statement together form the joint EMAS Statement of UPM Corporation. The next Updated UPM Corporate Environmental Statement and also this supplement will be published in 2021.

UPM offers renewable and responsible solutions and innovate for a future beyond fossils across six business areas: UPM Biorefining, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Communication Papers and UPM Plywood. As the industry leader in responsibility we are committed to the UN Business Ambition for 1.5°C and the science-based targets to mitigate climate change. We employ 18,700 people worldwide and our annual sales are approximately EUR 10.2 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. www.upm.com

Production capacity	Up to 360,000 tonnes per annum
Personnel	Augsburg mill: approx. 334/ Augsburg Office: approx. 124 (total number of employees as at 31.12.2019)
Products	Magazine paper (LWC): UPM Ultra UPM Matt UPM Cote UPM Valor
Certificates	Augsburg mill: ISO 14001 – Environmental Management System Standard ISO 9001 – Quality Management System Standard ISO 50001 – Energy Management System Standard OHSAS 18001 – Occupational Health and Safety System Standard PEFC™ Chain-of-Custody – Programme for the Endorsement of Forest Certification FSC® Chain-of-Custody – Forest Stewardship Council® Augsburg mill and Augsburg Office: EMAS – EU Eco-Management and Audit Scheme All certificates can be found from UPM’s Certificate finder (available at upm.com/responsibility)
Environmental labels	EU Ecolabel for copying and graphic paper



The mark of responsible forestry

For more information about FSC certification visit fsc.org



For more information about PEFC certification visit pefc.org



EU Ecolabel : FI/011/001

Review of year 2019

Environmental care is an integral part of the papermaking processes at UPM Augsburg. We have been working since 1997 with an integrated management system covering, by now, quality, environment and occupational health and safety and we are additionally reporting under EMAS (the EU's Eco-Management and Audit Scheme) in order to further develop our environmental work responsibly and document it in a transparent and traceable manner.

UPM "Clean run" campaign

In order to further improve its environmental performance, UPM is promoting its group-wide "Clean Run" campaign. All UPM mills are audited to assess the quality of their environmental work and determine any necessary action. In addition, all staff are informed about environmental issues relating to the mill.

Environmental audits

In the course of the reporting year, one environmentally relevant audit took place. An external auditor conducted an audit to renew our certification to the EU Ecolabel (EU flower) without identifying any deficiencies.

Working jointly to achieve goals

Each year, we set ourselves detailed new quality, environmental and occupational health and safety targets. We actively involve our employees both in the setting of goals and the implementation of targets. We consistently work on improving our environmental performance not just within the company, but also in our co-operation with customers, suppliers, authorities and the general public.

Environmental protection is a priority

As a company of the Finnish UPM Corporation we are committed to conserving the environment, continually optimising our production processes in order to minimise the impact of our operations on the environment and, very importantly, on the local community around our mill. Also in 2019 we undertook regular

measurements of airborne emissions from the mill and we are happy to report once again that our discharge levels were not just in compliance with, but usually well below the limit values.

All complaints were followed up immediately. In 2019 there were no complaints about tangible environmental impacts.



Gerhard Mayer,
General Manager

Eva Männer,
Manager OHSEM

Responsibility figures 2019

Waste



0 kg/t paper

Process waste to landfill

Energy



14%

reduction in specific total energy use
from 2010

Health



260

employees at the site participated in the "Back Check" campaign offered as part of the healthcare programme to identify potential neck vertebra, torso and upper body muscle troubles at an early stage.

Energy



Specific power consumption for
ground wood pulping improved by

9%

since 2017

Certified fibre



Forest certification schemes like FSC and PEFC guarantee that wood, our most important raw material, comes from sustainable sources. UPM's target is to have all fibres used for papermaking certified by 2030.

91%

certified fibres used for papermaking.

Alerting and emergency planning

190

employees at the site were taught the correct handling of fire extinguishers.

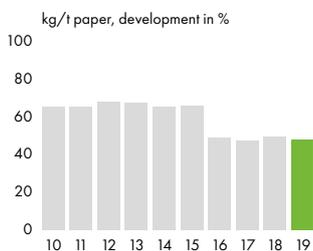
Air



Energy generation is the main source of emissions from paper mills. Emissions can be reduced by the appropriate choice of fuels and combustion technology as well as flue gas purification. UPM Augsburg has set itself the target of further reducing CO₂ emissions by efficient energy use, as per the strategy set out in UPM's Corporate Environmental Responsibility Statement.

In 2019 the half-hourly CO limit was exceeded in one instance following a technical failure. Appropriate counter-measures were taken in agreement with the authority in charge.

Carbon dioxide (fossil), CO₂



Reference year: 2000
Slight increase in comparison with 2017 due to the lower production volume in 2018

EMISSIONS FROM THE CHP PLANT 2019

	Limit value (mg/Nm ³)	Mean value measured (mg/Nm ³)
CO	50	1
NO _x	100	63

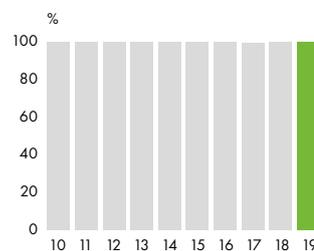
Waste



In line with the principle of closed-loop economy, the majority of production residues is recycled. All wastes are forwarded to licensed waste disposal contractors and disposed of in compliance with the relevant statutory requirements.

UPM Augsburg strives to maintain the recovery rate of solid residue, which presently stands at 99.6%, on its current level.

Recovery rate



Water



The water for the production process is drawn from deep wells on the mill premises. Virtually continuous water recycling within our systems reduces water use.

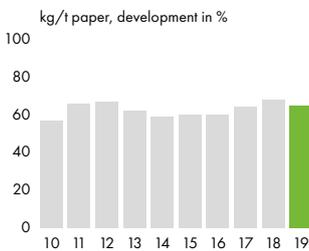
Part of the process water evaporates as the paper web dries. We recover and reutilise as much as possible of the thermal energy contained in the exhaust

air. The remainder is discharged into the air as water vapour. Cooling water is taken from the Proviant, Schaeffler and Stadtbach canals.

The process water is recycled several times before it is discharged as effluent to the municipal treatment for purification.

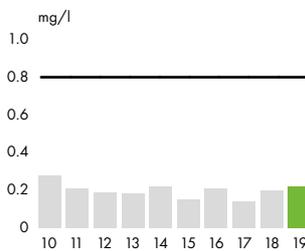
There were no exceedances in 2019 of the limit values stated in the mill's operating permit (solids load, AOX, temperature, pH value, volume streams, volumes discharged).

Effluent volume



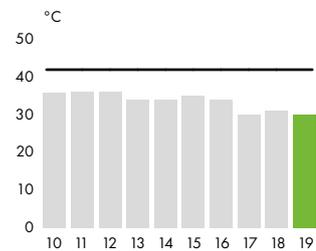
Reference year: 2000
Slight increase in comparison with 2017 due to the lower production volume in 2018

Adsorbable organic halogen compounds, AOX



— Limit value
■ Annual mean value

Temperature



Organisational structure and emergency organisation

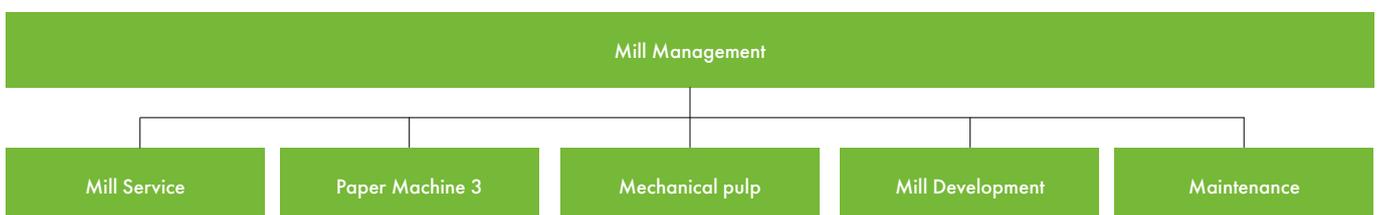
Operators in charge are appointed for environmentally relevant production plants and ancillary facilities.

As required by law, appointed officers advise the mill management and the specialist departments in the following areas: immission control, water protection, waste, hazardous goods, radiation protection and internal rail operations.

In addition, there are designated representatives responsible for the integrated management system (quality, environment, energy) and for occupational safety, fire protection and data protection.

Comprehensive emergency plans have been defined for emergencies of all kinds, such as fire, industrial accidents and environmental incidents. From

alerting to immediate action and follow-up, there are guidelines to minimise the effects of an emergency as far as possible. Detailed flow charts are available for different types of emergencies. For emergencies of a larger scale, there is an emergency staff who decides on any further action to be taken.



Societal responsibility

Improving our environmental performance

We take responsibility for the environment and are committed to minimising the impacts of our operations on people and the environment. For example, a solution was found within the UPM Group to use the ashes from fibre residues as a soil stabiliser and as an additive for construction materials. Additionally, UPM sets itself environmental goals that are in line with our sustainability targets for 2030.

Significant environmental aspects:

The environmental aspects identified as significant are taken into account by putting in place appointed officers and an appropriate operational structure and by considering them in the mill's targets.

Chemicals – use of titanium dioxide

Until recently, small levels of titanium dioxide were used on PM 3 to increase the opacity of small volumes of paper with low basis weights. Alternative recipes have been successfully developed to completely eliminate the use of titanium dioxide at the Augsburg mill. The conversion was started in December 2019 and will be completed in early 2020.

Water

In 2019, the specific effluent volume was reduced by 0.3 l/kg from 2018 despite higher production of recycled and groundwood pulp. This was achieved by the following measures:

- Retrofitting the suction roll of the paper machine to Hydroseal
- Collecting the sizer cooling water and recovering it via sand filters
- Partially recirculating paper machine process water to be reused in the press section

Fibres – Reducing fibre losses in recovered paper processing

Several measures have significantly increased the yield of recovered paper processing, from 63.4% to 64.6%, corresponding to a reduction of fibre residues by approx. 2500 t per year. The most significant measures in this respect consisted in increasing and more precisely controlling the ash target values in the recovered paper. This resulted at the same time in a reduction of the amount of virgin filler and fibres used on the paper machine, as well as lower specific energy requirements in recovered paper processing and in the overall paper production process.

Compliance with legal requirements

The applicable environmental regulations are complied with and the existing environmental management system is proactive in responding to changes.

Biodiversity

In order to control the continuing high population of wild pigeons on the mill premises, a supervised pigeon loft was set up at a central location in 2019 in cooperation with the Augsburg Animal Protection Association (Tierschutzverein Augsburg e.V.), where the animals get healthy food and are offered nesting facilities. Once the pigeons have settled in and feel comfortable there, they spend up to 20 hours a day in the dovecote due to their philopatry. In this way it is possible to promote their state of health, regulate the population by exchanging eggs and reduce pollution on the mill premises. At the end of 2019, about 50 pigeons were cared for in the loft, and the trend is rising.





Promotion of young talent at UPM Augsburg

The Augsburg mill is a member of the corporate network "Talente für die Region Bayerisch-Schwaben e.V." and is actively involved in showing students and young academics from the area professional perspectives as well as offering a platform for exchange of experience. In cooperation with the Association of German Paper Mills e.V., pupils and students are given insights into the paper industry, different areas of responsibility and opportunities for development, but also into training as a paper technologist or paper engineer.

UPM employee volunteering

The Augsburg site is looking back on a long tradition of support for children in need. Last year, the Cent Parade made donations to "Der bunte Kreis" and the St. Nikolaus children's hospice. Both organisations take care of seriously ill children and their families and help them in their difficult everyday life. Working with the Cent Parade, UPM employees donate the cent amounts on their monthly salary statements for charity.

Children's Christmas party and corporate sports club

Another long-standing tradition is the Christmas party for children of UPM staff. Every year, three to twelve-year olds are invited to watch a performance of the Augsburg Puppenkiste puppet theater, followed by a visit of Father Christmas. Additionally, UPM Augsburg has for many years been supporting the activities of the UPM-Kymmene e.V. corporate sports club.

Corporate health management

Health is a valuable asset. UPM Augsburg is working intensively to protect and promote the health of its employees, as a healthy, high-performing and motivated workforce is prerequisite for the Augsburg's mill success and competitive edge. We aim to create a health-promoting environment for our employees, promote health and safety awareness among them, and thus lay the foundation for job satisfaction and motivation. Recent years have seen significant improvements in the field of occupational health.

Since the implementation of a corporate health management system, occupational health and safety, health promotion and occupational integration management have become increasingly interlocked. Health promotion and preventive healthcare have become increasingly important.

UPM Augsburg offers its employees preventive health checks. The annual safety „Safe & Healthy“ day addresses both health and safety topics and offers the employees an opportunity for exchange. Moreover, since September of 2017, mineral water is provided to the employees free of charge.

Performance against targets in 2019

TARGETS	ACHIEVEMENT
1 Energy <ul style="list-style-type: none"> – Use boiler no. 10 as “back up”, saving 500 MWh of gas per annum and consequently, reducing CO₂, fresh water consumption and effluent volume – Reduce specific power consumption on PM 3 to 570 k/Wh (by maintaining efficiency and taking targeted energy saving measures) – Reduce specific power consumption for groundwood production to 2,430 kWh/t – Reduce specific power consumption for DIP production to 640 kWh/t – Reduce specific power consumption of chemical pulp plant to 395 kWh/t 	<ul style="list-style-type: none"> – Target achieved: boiler no. 10 moved to back up. Following a steam supply problem in mid-July, boiler no. 10 was recommissioned and boiler no. 7 moved to back up. – Target not achieved: actual average specific power consumption on PM 3 2019: 567 kWh/t – Target achieved: actual average specific power consumption for groundwood production 2019: 2,384 kWh/t – Target achieved: actual average specific power consumption for DIP production 2019: 609 kW/t – Target not achieved: actual average specific power consumption of chemical pulp plant 2019: 445 kWh/t
2 Recycling Increase DIP volume on PM 3 to 400 t/d on average.	Target achieved
3 Water Reduce specific effluent volume to 7.2 l/kg.	Target not achieved
4 Sustainability Draw up a roadmap to achieve UPM's 2030 sustainability targets.	Target achieved: roadmap in place
5 CleanRun No category 3 and 4 deviations.	Target not achieved: one category 3 incident in 2019

Targets for 2020

TARGETS AND MEASURES	DEADLINE	DEPARTMENT RESPONSIBLE
1 Power consumption <ul style="list-style-type: none"> – Stabilise energy consumption for groundwood pulp production Target: 2019 actual value – 10 kWh/t – Reduce energy consumption for DIP production Target: 2019 actual value – 20 kWh/t – Reduce energy consumption for chemical pulp production Target: 2019 actual value – 45 kWh/t 	12/2020	Production
2 Recycling Reduce fibre losses in recovered paper processing by 0.5%	12/2020	Production
3 Water Reduce specific effluent volume by 0.2 l from 2019 (by increasing efficiency of PM3) Reduce water losses from wet debarking drum (by replacing sealing lips)	12/2020	Production
4 CleanRun No category 4 and 3 deviations (By emissions related measure: programme boiler to switch off automatically in case of impending NO _x or CO ₂ limit violation)	12/2020 12/2020	Mill management BUP/BIK



Environmental verifier's declaration on verification and revalidation activities

Environmental verifier, Astrid Günther (DE-V-0357), acting for TÜV NORD CERT Umweltgutachter GmbH, licensed for the scope NACE Code 17.12 (papermaking), declares to have verified whether the site UPM GmbH, Augsburg mill, in 86153 Augsburg, Georg-Haindl-Strasse 4+5, Germany, as indicated in the updated UPM Corporate Environmental and Societal Responsibility Statement 2019 of the mentioned site (registration number FI-000058), meets all requirements of 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).

By signing this declaration, I declare that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009,
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment,
- the data and information of the updated Environmental Statement 2019 of UPM GmbH, Augsburg mill, reflect a reliable, credible and correct image of all

the activities of UPM GmbH, Augsburg mill, within the scope mentioned in the updated Environmental Statement 2019.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Augsburg, 16.04.2020

Astrid Günther
 Environmental verifier
 DE-V-0357
 TÜV NORD CERT Umweltgutachter GmbH

We reduce the world's reliance on fossil-based materials by developing renewable and responsible products and solutions in all our businesses. **UPM Biofore – Beyond fossils.**



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