



UPM Augsburg



Environmental and societal responsibility 2024

UPM Augsburg

UPM Augsburg is located on the edge of Augsburg city center. Founded in 1849, the site currently employs around 282 employees and produces up to 350,000 metric tons of coated supercalendered printing paper in reels per year. The paper is primarily used for magazines, newspaper inserts, advertising brochures, and sales and mail order catalogues.

In addition to recovered paper and pigments, virgin fibers such as groundwood pulp and chemical pulp from sustainably managed forests are used as raw materials for paper production. The water required for the production process comes from deep wells on the mill site. The wastewater is 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 electricity is supplied via the national grid.

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



Production capacity	Up to 350,000 tonnes per annum
Personnel	Augsburg mill 282 / Augsburg office approx. 114 (total number of employees as at December 31, 2024)
Products	Magazine paper (LWC): UPM Ultra UPM Matt UPM Cote UPM Cote Silk
Certifications	Augsburg mill: ISO 14001 – Environmental Management Systems standard ISO 9001 – Quality Management Systems standard ISO 50001 – Energy Management Systems standard ISO 45001 – Occupational Health and Safety 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 in the UPM Certificate Finder (available at www.upm.com/responsibility)
Environmental labels	EU Ecolabel (EU flower) for copy and graphic paper



UPM Augsburg Environmental and Societal Responsibility 2024 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 2024. The annually mill supplements and the UPM Corporate Environmental and Societal Responsibility Statement together form the joint EMAS Statement of UPM Corporation. The next UPM Corporate Environmental Statement and also this supplement will be published in 2026.

UPM is a material solutions company, renewing products and entire value chains with an extensive portfolio of renewable fibres, advanced materials, decarbonization solutions, and communication papers. Our performance in sustainability has been recognized by third parties, including EcoVadis and the Dow Jones Sustainability Indices. We operate globally and employ approximately 15,800 people worldwide, with annual sales of approximately €10.3 billion. Our shares are listed on Nasdaq Helsinki Ltd.

UPM – we renew the everyday
Read more: upm.com



The mark of responsible forestry

For more information about FSC certification visit fsc.org



For more information about PEFC certification visit pefc.org



Review of the year 2024

Environmental protection is an integral part of the papermaking processes at UPM Augsburg. Since 1997, we have been working with an integrated management system that combines quality, energy, environmental and occupational health and safety, and we also participate in the European Eco-Management and Audit Scheme (EMAS). This means we develop our environmental work independently and document our progress in a transparent and comprehensible manner.

UPM's "Clean Run" initiative

UPM is driving further improvements in environmental performance with the "Clean Run" campaign. All UPM mills are audited to assess the quality of their environmental work and determine any necessary action. In addition, all employees are informed about environmental issues relating to their mill.

Environmental audits

An internal environmental audit was carried out during the reporting year, when our environmental management system was audited by the UPM global environmental department. Execution and implementation at the Augsburg mill were certified as very good.

Working together to achieve goals

Each year, we set ourselves detailed new targets for quality, energy, environmental protection and occupational health and safety. We actively involve our employees in both 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 collaboration with customers, suppliers, authorities and the general public.

UPM joins "The Climate Pledge"

The aim of this cross-industry network of major companies is to jointly mitigate the climate crisis and to work towards achieving a carbon-neutral global economy. By signing the agreement in 2021, UPM has committed to achieving the objectives of the Paris Climate Agreement ahead of time.

Contributing to climate protection with the Science Based Targets Initiative

UPM is committed to the Science Based Targets Initiative (SBTI) and has set its own science-based targets in line with the Paris Agreement.

Our customers can be confident that UPM's climate targets are based on the latest scientific findings and verified data, and that progress towards these targets is being monitored.

UPM has also participated in the Science Based Targets Network (SBTN) Corporate Engagement Program in order to contribute to the development and testing of tools, methods, and guidelines for defining science-based targets for nature conservation.

Membership in the "Together for Sustainability" (TfS) initiative

UPM has been a member of "Together for Sustainability" since 2018, an organization which has developed a standard for assessing and improving the sustainability performance of suppliers and supporting the principles of the United Nations Global Compact and Responsible Care.

UPM's supplier audits are carried out by both UPM-trained auditors and external auditors, including TfS auditors.

Environmental protection is a priority

As part of the Finnish UPM Group, we attach great importance to environmental protection and continually optimize our paper production process. We keep our environmental impact as low as possible, especially in the immediate vicinity. In 2022, we continued to take regular measurements of airborne emissions. This showed once again that our values not only comply with the permissible limits, but in some cases even fall significantly below them.

We always follow up any complaints immediately. In 2024, there were no complaints about tangible environmental impact.



Gerhard Mayer,
General Manager

Eva Männer,
Manager OHSEM

UPM Augsburg

Contribution to UN Sustainable Development Goals in 2024

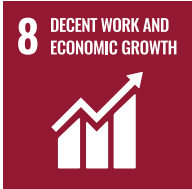


Energy

Improvement in specific gas consumption for coating drying and calender heating by

-8%

compared to the mean value for the period 2021-2023



Healthcare

114

employees at the mill participated in the skin cancer preventive health campaign.



Certified fiber

Forest certification schemes like FSC® and PEFC guarantee that wood, our most important resource, comes from sustainable sources. UPM's target is to use only certified fiber for papermaking by 2030.

88%

certified fiber used for papermaking.



Water

Reduction of normalized specific wastewater generation since 2017

-18%

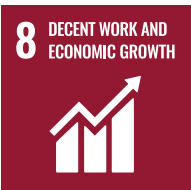


Emissions

Avoidance of

3,650 t

of CO₂ scope 1 emissions at the site in 2024 (July-December).



Safety

Our clear goal at UPM is: **Zero fatal and serious accidents.** We were able to meet this target in 2024. Occupational health and safety is an integral part of our daily activities. We are also working to reduce or completely prevent all incidents within our sphere of influence by means of continuous improvement and effective risk management.

The TRIF* including external companies in 2024 amounted to

13.4

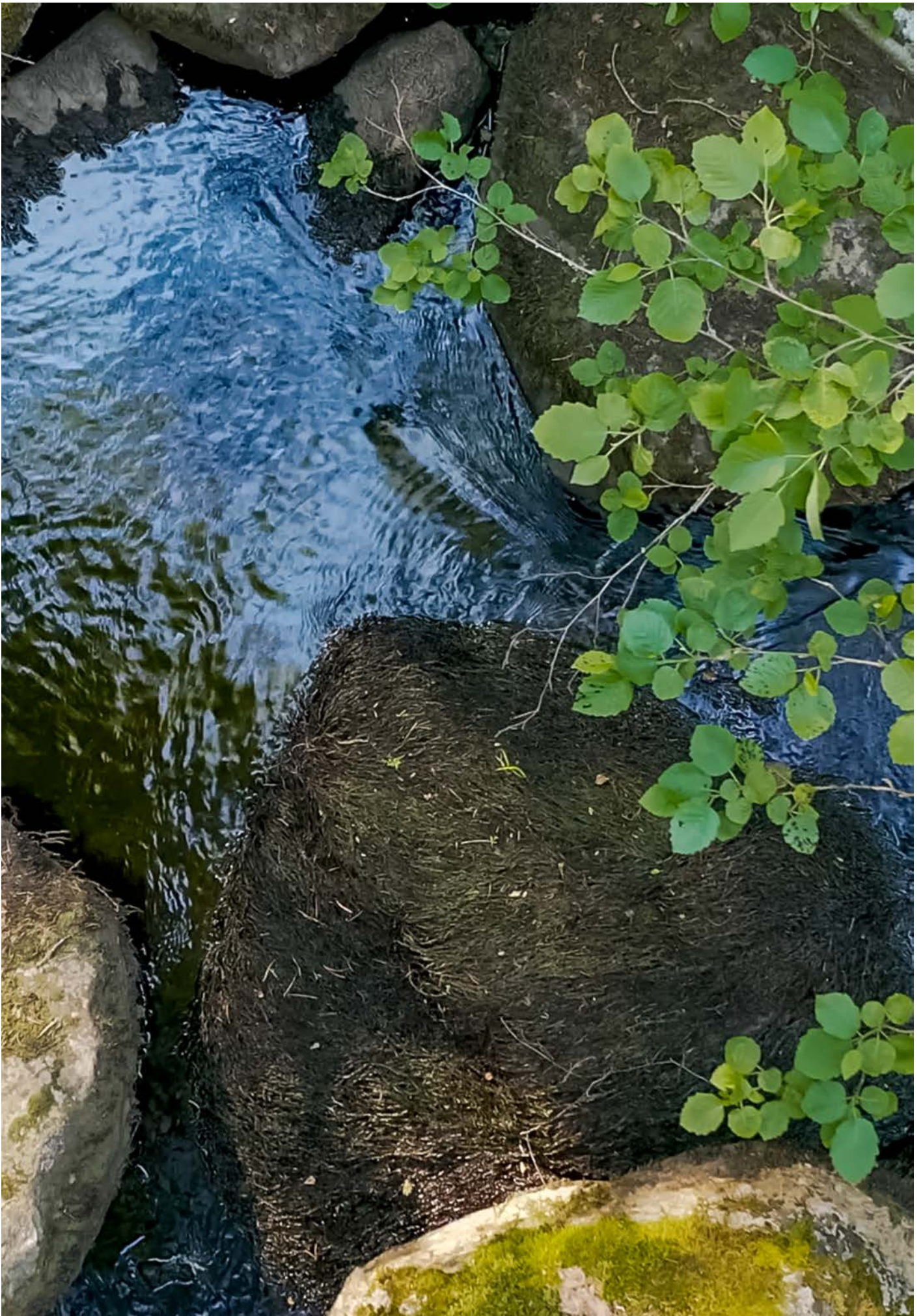
TRIF*: total recordable injury frequency (%)



Waste

0 kg/t Paper

process waste to landfill.



Air



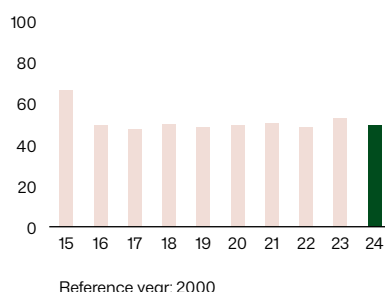
Energy generation is the main source of air emissions from paper mills. Emissions can be reduced through the appropriate choice of fuels and combustion technology, and through flue gas purification. UPM Augsburg has set itself the target of further reducing CO₂ emissions through efficient energy use,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

CHP emissions in 2024

	Limit value (mg/Nm ³)	Mean value of measurements (mg/Nm ³)
CO	50	0.8
NO _x	100	68

Carbon dioxide (fossil), CO₂, Scope 1

kg/t paper, development as %



Waste

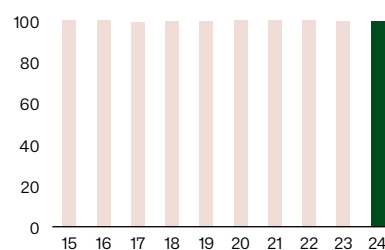


In line with the circular economy principle, the majority of production waste is recycled. All waste is forwarded to waste management facilities and disposed of in compliance with the relevant statutory requirements.

UPM Augsburg aims to maintain the waste recovery rate at its current level of 99.8%.

Recovery rate

%



Water

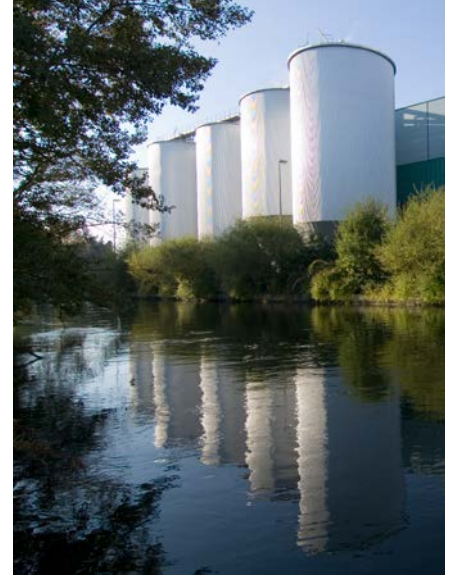


The water for the production process is drawn from deep wells on the mill premises. Virtually continuous water recycling within our systems reduces water use.

Part of the process water evaporates as the paper web dries. The thermal energy contained in the exhaust air is recovered and reused as much as possible. The remainder is discharged into the ambient air as water vapor. Cooling water is taken from the Provi-antbach, Schäfflerbach and Stadtbach canals.

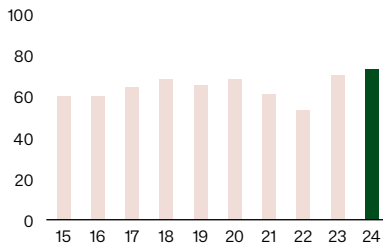
The process water is recycled several times before it is discharged as effluent to the Augsburg municipal treatment plant for purification.

The “Water emissions” emission values on page 10 are the intake values for the Augsburg municipal treatment plant.



Wastewater volume
(not normalized)

m³/t paper, development as %

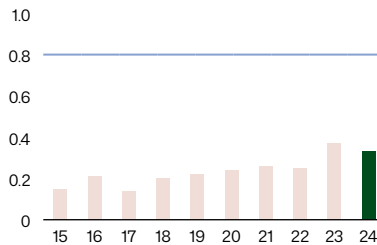


Reference year: 2000

Increase in specific wastewater volume due to lower utilization of production capacity in 2023 and 2024

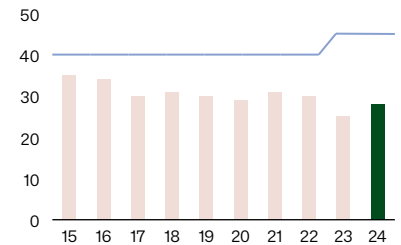
Adsorbable organic halogen compounds, AOX

mg/l



Temperature

°C



— Limit value
■ Annual average

Organizational structure and emergency organization

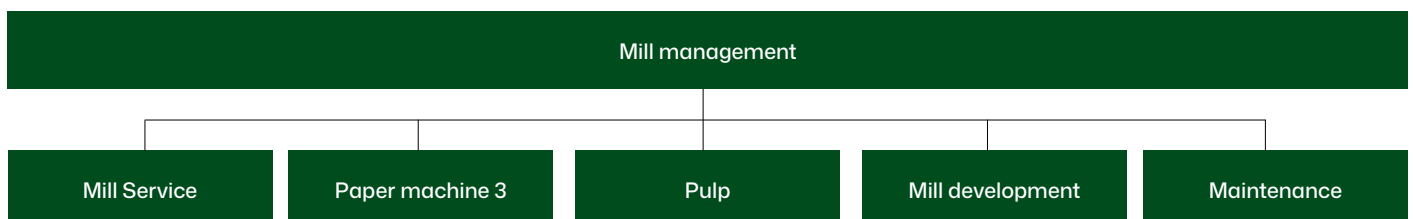
Operators in charge are appointed for environmentally relevant production plants and ancillary facilities.

Statutory representatives 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.

There are also designated representatives responsible for the integrated management system (quality, environment, energy) and for occupational health and 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 minimize the effects of an emergency to the greatest extent possible. Detailed flow charts are available for different types of emergencies. A crisis team has been appointed to decide on the action to be taken in the event of a large-scale emergency.



Social responsibility

Improving our environmental performance

We take responsibility for the environment and are committed to minimizing the impact of our production operations on our employees and the environment. For example, a solution was found within the UPM Group to use the ash from our fiber residue as a soil stabilizer and as an additive for construction materials. Additionally, UPM sets itself environmental goals that are in line with the Agenda 2030 sustainability targets.

Significant environmental aspects:

The environmental aspects identified as significant are taken into account by appointing officers and implementing an appropriate operational structure, and by considering these aspects in the mill's targets.

Chemicals

Remaining stocks of chemicals, UPM Plattling and Hürth

In 2024, remaining stocks from the decommissioned sister plants in Hürth and Plattling were used for their intended purpose in Augsburg, thereby avoiding costly disposal. The chemicals are caustic soda, biocide, and flocculant.

Reduction of defoamer in wastewater treatment

Following a product change in 2023, the defoamer used in wastewater treatment was reduced by a further 25% in November 2024.

Water

The absolute specific wastewater volume increased from 8.3 m³/t (2023) to 8.5 m³/t in 2024 due to the low operating rate and the resulting Stop & Go mode of operation (atypical grid usage in 6 months). The normalized (adjusted for operating rate and grammage) specific wastewater value improved from 6.0 m³/t (2023) to 5.9 m³/t (2024). Given the positive experience with a pilot water filter (AZUD filter) for cleaning process water as a hot water substitute in 2021–2023, a new AZUD filter was permanently installed in 2024. This AZUD filter was put into operation on February 20, 2024 and the supply of various PM3 water consumers was gradually switched from hot water to AZUD filtration over the course of the year. At full capacity, this can save up to 1.6 m³/t of hot water and, as a result, wastewater. The improvement should take full effect in 2025.

Energy

Waste heat potentials, PM3

A project team was formed in mid-2023 to analyze potential heat savings in

order to make better use of the mill's waste heat potential. The first step involved mapping out a detailed overview of the current processes and identifying heat sinks and heat sources.

The first measures involving the existing system were implemented in 2024. Ventilation regulation of the pre-drying section is now controlled using an APC control, depending on the type of material. This has improved the efficiency of the heat recovery systems. Additionally, the exhaust air volumes to the air dryer have been halved, which has resulted in a significant reduction in waste heat and primary energy (gas). Further potential has been identified, but investment costs have not yet been determined.

Targeted monitoring of energy sources and energy sinks is in progress.

Investment in an electrode boiler (P2H – Power to Heat) generates steam and saves money

The highly flexible system is always operated when the price of electricity is comparatively low due to a high feed-in of renewable energies (particularly wind energy and PV) or low demand for electricity. During these periods, an additional electricity consumer will be used to help stabilize the network. As a result, we will be able to mitigate the effects of throttling by renewable energy producers while at the same time reducing the use of fossil fuels (such as natural gas) for heat generation. This will lead to significant CO₂ emission savings, allowing us to make an active contribution to decarbonization within our industry. With this investment and the operational approach outlined, we were able to avoid the combustion of approximately 20,000 MWh of gas and the emission of around 3,700 metric tons of CO₂ at the Augsburg site in the second half of 2024. The new boiler has significantly improved the flexibility of steam generation and represents an important step towards the production of CO₂-free paper.

The preparatory work began back in February 2023, and the first step was to create space for the new boiler. The old steam turbine 2 was dismantled and scrapped. The foundations of the old steam turbine could then be demolished and the site prepared for the installation of the new boiler. In early September 2023, the boiler was first moved into the power plant building horizontally with precise, millimeter-level handling using our existing crane, and was then erected vertically using specialized equipment provided by external contractors. Once it was in place, the piping, steel construction, and electrical installation work could begin. The effort required

to connect the new system to the existing systems was significantly reduced as it was integrated into the existing turbine building.

All of the preparatory work had been completed by mid-June 2024, which allowed the boiler to be commissioned by Parat employees. Within two weeks, the commissioning engineers tested the boiler at various output levels and optimized its operation. The boiler produced steam for the first time on June 20, 2024, which was then fed to the paper machine. A comprehensive TÜV inspection was conducted in which all safety tests were successfully passed. Production operations have been run by our power plant personnel since the end of June 2024.

"The successful commissioning of the P2H boiler is an important milestone for our plant. We are proud of the entire project team and the excellent cooperation with our partners."
Markus Rausch, Karl Bisle

The maximum electrical output of the boiler at the Augsburg mill is 33 MW, which corresponds to steam production of around 50 metric tons of steam per hour. This helps minimize dependence on gas. Further potential, such as cost-optimized heating of the process water after shutdowns, became apparent even during the first few weeks.

Reduction in gas usage at PM 3

Specific gas consumption at PM 3 (PowerDry, TurnDry, Thermal Oil) improved by an impressive 8% in 2024 compared to the average of the previous three years.





The main reason for the significantly improved energy efficiency in the case of coating drying can be seen in the successful implementation of measures from the energy action plan. Nozzles in the PowerDry/Turn-Dry area were replaced in mid-2023 (investment of EUR 432,000). For the first time, the effect of these savings has now been felt for a full year. In addition, the operation of the two units was optimized in 2024, successfully drawing on experience from the sister plant in Dörpen to retain more heat in the overall system by reducing the exhaust air flow.

Optimizing the use of electricity in ground-wood pulp production

With regard to groundwood pulp production, normalized electricity consumption per metric ton of pulp developed positively, with an improvement of just over 3% compared to the previous year. A key factor in this development was the consistent avoidance of part load operation. During production periods, the system was generally run with 5 grinders, while operation with only 3 or 4 grinders was successfully minimized. The energy efficiency of the system increased as a result.

Waste

Waste separation – further measures

Some 345 IBCs were sent for environmentally compatible recycling in 2024. This resulted in savings of 13.3 metric tons of steel and 5.2 metric tons of plastic compared to pro-

ducing new IBCs. According to data from the German Environment Agency, this equates to 36.9 metric tons of CO₂ emissions. A return system for recycling oil and grease drums that have been emptied of residual material has also been organized.

Legal compliance

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

Promoting young talent at UPM Augsburg

As a member of the Bavarian/Swabian branch of the “Talent for the Region” (Talente für die Region) business networking company, the Augsburg mill is actively involved in making students and young academics from the area aware of professional opportunities and offering a platform for an exchange of experiences. In collaboration with the association DIE PAPIERINDUSTRIE e.V., school and university students are given insight into the paper industry, including its sphere of activities, career development opportunities, and the training involved in becoming a paper technologist or paper engineer.

UPM employees get involved

The Augsburg mill can look back on a long tradition of support for children in need. Last year, the Cent Parade was used to make donations to the “Bunter Kreis” charity and

the St. Nikolaus children’s hospice. Both organizations provide support for seriously ill children and their families, and help them with the challenges of daily life. In the Cent Parade, UPM employees donate the cent amounts from their monthly wage statements to charity.

Corporate sports association

For many years, the mill has also supported the work of the UPM-Kymmene Augsburg e.V. corporate sports association.

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, efficient and motivated workforce is a prerequisite for the Augsburg mill’s success and competitive edge. We aim to create a healthy environment for our employees, increase their awareness of health and occupational safety, and thus lay the foundation for job satisfaction and motivation. In recent years, we have been continuing to work on improvements in the field of health and safety. Since the implementation of a corporate health management system, occupational health and safety, health support and occupational integration management have become intertwined. The promotion of health and preventive healthcare have become increasingly important. For example, the mill’s employees have been provided with free mineral water since September 2017.

Environmental parameters

The figures related to production as well as raw material and energy consumption are published as aggregated figures on group level in the UPM Corporate Environmental and Societal Responsibility Statement.

		2022	2023	2024
Production capacity	Paper	Up to 350,000 t	Up to 350,000 t	Up to 350,000 t
Raw materials	Recovered paper Round wood Chemical pulp Pigments Process chemicals Operating supplies	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Energy	Fossil fuels Purchased power	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Emissions to air	Carbon dioxide, CO ₂ (on-site fossil emissions, scope 1) Carbon dioxide, CO ₂ (fossil emissions from purchased energy, scope 2) Nitrogen oxide, NO _x Carbon monoxide, CO Sulphur dioxide, SO ₂	64,069 t 186,752 t 22.4 t 4.6 t 0.4 t	46,905 t 146,260 t 16.3 t 3.5 t 0.3 t	48,043 t 154,471 t 16.8 t 4.1 t 0.4 t
Water intake	Process water Cooling water	2,129,671 m ³ 9,972,593 m ³	1,804,241 m ³ 7,554,681 m ³	2,046,966 m ³ 8,532,903 m ³
Discharges to water	Effluent volume Chemical oxygen demand, COD Biological oxygen demand, BOD ₅ Phosphorus, P Nitrogen (inorganic), N Adsorbable organic halogen compounds, AOX	2,000,519 m ³ 5,701 t 2,952 t 6.4 t 36.3 t 0.5 t	1,760,537 m ³ 4,248 t 2,196 t 3.6 t 21.1 t 0.6 t	1,992,685 m ³ 4,073 t 1,934 t 3.8 t 21.6 t 0.6 t
By-products and waste¹⁾	By-products in accordance with §4 German waste management act (KrWG): Wood residue Waste for recovery: - Fiber residues - Deinking residue - Waste wood - Metal - Construction waste - Other ²⁾ Waste for disposal: - Construction waste - General waste, e.g. - Other Recovery rate	11,776 t 68,536 t 2,465 t 25 t 547 t ³⁾ 90 t ³⁾ 541 t 0 t 18 t 25 t 99.9 %	7,496 t 50,145 t 1,948 t 44 t 471 t ³⁾ 78 t ³⁾ 203 t 62 t 18 t 29 t ⁴⁾ 99.8 %	10,767 t 50,056 t 1,574 t 42 t 182 t 5 t 448 t 0 t 18 t 65 t 99.8 %
Hazardous waste		46 t	59 t	70 t
Land use	Total sealed area (incl. externally operated hydropower plants) Total nature-oriented area on site Total nature-oriented area off-site Total use of land	23.7 ha 3.6 ha 0 ha 27.3 ha	23.7 ha 3.6 ha 0 ha 27.3 ha	23.7 ha 3.6 ha 0 ha 27.3 ha

¹⁾ All figures including moisture

²⁾ Other recyclable waste and general waste for recovery

³⁾ Decommissioned paper machine incl. ancillary facilities at the mill being dismantled as of 2020

⁴⁾ Replacement of track ballast in 2023



Performance against targets in 2024

Targets	Achievement
1 Energy use - Reduce energy use for HS; target <2,500 kWh/t (normalized) - Reduce energy input DIP; target <590 kWh/t (normalized)	- Achieved, reduction to 2,415 kWh/t in 2024 - Not achieved (626 kWh/t in 2024)
2 Emissions Reduce gas consumption by –33,000 MWh Ho and reduce CO ₂ by –6,000 t (commissioning of P2H boiler from 04/2024)	Target only partially achieved due to commissioning of P2H boiler from 07/2024: Gas consumption reduced by 19,964 MWh Ho and CO ₂ reduced by 3,650 t
3 Water Reduce specific normalized wastewater generation by –0.3 m³/t by 2023 (higher water purification via sand filter and AZUD filter, replace WW with process water, improve water management during shutdowns)	Not achieved: 5.9 m³/t achieved (2023: 6.0 m³/t)
4 Chemicals Reduce use of Agitan defoamers by 20% compared to 2023	Not achieved, cannot be implemented due to product mix
5 Waste Reduction of residual waste by –5% by 2023 (measures: project for recycling machine clothing / employee training)	Not achieved (actual value for 2024: 99 t/2023: 83 t)

Targets for 2025

Targets and measures	Deadline	Department responsible
1 Energy use Reduce energy use for HS; target <2,400 kWh/t (normalized) (continue to consistently operate 5 grinders, better visualization through new DCS, improve wood quality)	12/2025	Production
2 Recycling Reduction of residual waste volume by –5% compared to ACTUAL 2024	12/2025	Production
3 Emissions Reduce gas consumption by –25,000 MWh Ho and reduce CO ₂ by –4,500 t (P2H boiler operation for a full year, improved flexibility marketing)	12/2025	Production
4 Water Reduce normalized specific wastewater production by –0.3 m³/t by 2024 (optimization and stable operation with atypical grid usage of the AZUD filter, wastewater recovery PM3)	12/2025	Production
5 Use of chemicals Reduction in the use of bleaching chemicals compared to 2024 by –5% relative	12/2025	Production



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-Str. 4+5, Germany as indicated in the UPM Corporate Environmental and Societal Responsibility Statement 2024 of the mentioned site (registration no. FI-000058), meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 as amended by Regulation (EU) 2017/1505 and Regulation (EU) 2018/2026 of the commission 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 Environmental Statement 2024 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 Environmental Statement 2024.

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, 23.06.2025


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



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