UPM BIOFORE
BEYOND FOSSILS

UPM Jämsänkoski

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY 2022



UPM Jämsänkoski

The UPM Jämsänkoski mill is located in central Finland along the Jämsä river. Production at the mill dates back to the 1880s and there are three paper machines in operation. At the Jämsänkoski mill, paper is produced by UPM Communication Papers, which produces graphic papers, and UPM Specialty Papers, which produces specialty papers.

The main raw material for magazine and newsprint papers is wood pulp made from spruce wood, and for specialty papers it is pulp from UPM's own mills or purchased from the market. The plant also includes a debarking plant, a thermomechanical pulp (TMP) plant, a water supply plant, a biological wastewater treatment plant and a power plant.

The heat and a small part of the electricity needed for the process is produced in the company's own power plant, which uses around 80% biomass-based fuels. In addition, heat is efficiently recovered from the TMP plant for use in the process. The water used by the plant comes from the Koskikeskinen lake.

Production capacity	625,000 t of paper
Personnel	463
Products	**Magazine papers:** UPM Cat, UPM Impresse, UPM Impresse Plus, UPM Max, UPM Max S, UPM Smart **Newsprint:** UPM News, UPM Brite **Label and packaging paper:** UPM Label Papers, UPM Packaging Papers, UPM Release Papers, UPM Barrier Papers
Certificates	EMAS – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System ETJ+ – Energy management system ISO 9001 – Quality Management System ISO 22000 – Food Safety Management System ISO 45001 – Occupational Health and Safety System PEFC Chain of Custody – Programme for the Endorsement of Forest Certification FSC® wood origin monitoring system – Forest Stewardship Council® The certificates can be found with the Certificate Finder tool at www.upm.com/responsibility
Environmental labels	EU Ecolabel

UPM Jämsänkoski mill site Environmental and Societal Responsibility 2022 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 2022. 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 2024.

UPM delivers renewable and responsible solutions and innovates for a future beyond fossils across six business areas: UPM Fibres, 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 17,200 people worldwide and our annual sales are approximately EUR 11.7 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. www.upm.com

FSC www.fsc.org FSC® C014719
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For more information about FSC certification visit www.fsc.org

PEFC PEFC/02-31-80 Promoting Sustainable Forest Management www.pefc.org

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EU Ecolabel www.ecolabel.eu
EU Ecolabel : FI/011/001

Review of the year 2022

Overall, 2022 can be described as challenging. The year started with a strike announced by the Paperworkers' Union, which targeted UPM Finland's pulp and paper mills. The impact on the Jämsänkoski mill's operations was also reflected on external operators. The power plant produces district heat for the Jämsänkoski town and process steam for the neighbouring Genencor International Oy enzyme plant, while UPM's wastewater treatment plant treats the plant's wastewater. With the strike lasting until almost the end of April 2022, considerable preparation and special arrangements were needed to manage this exceptional situation. The start-up of the plant and adjustment of the process equipment to normal production operations was an exceptional success. When employees returned to work, particular emphasis was placed on ensuring that work was started safely and that safety risks associated with each job were reviewed.

Communication Papers continued to focus on developing the technical changes to newsprint production implemented in 2021. The production line at the mill produces both high-quality newsprint and magazine paper. Production line PM6 celebrated its 30th anniversary in autumn 2022. The technical condition of the line has been well maintained through ongoing projects and improvements where necessary. In late 2022, a major energy efficiency project was launched in mechanical pulp production. The project will be operational in spring 2023.

Cost competitiveness was a challenge in all operations due to rising raw material costs, especially energy, and a challenging business environment in terms of predictability.

COVID-19 preventive measures were continued during 2022. We have had good success in following the guidelines and practices and, thanks to proactive measures, we coped very well with COVID-19 infections at the workplace throughout the year. At the end of 2022, restrictions were lifted for both workplace and leisure activities. This was reflected in a clear spike in sick leaves at the mill. It was still the employer's responsibility to prevent COVID-19 infections at the workplace and to ensure adequate resources to maintain productivity. This led to a brief return to the use of masks at the workplace in October, with further emphasis on the importance of good hand hygiene, among other measures.

The entire personnel at the Jämsänkoski mill has made long-term efforts to promote safety at work. The UPM mill workforce accomplished an impressive safety milestone as a united team, surpassing a record of over 3.5 years without any lost-time accidents (LTA). In recognition of this remarkable accomplishment and commitment to setting new records in safety, the UPM mill workforce was reminded to prioritize their well-being during the cold, dark, and slippery winter weather, emphasizing the importance of wearing suitable footwear and headwear. In the field of occupational safety, particular attention will be paid to training summer workers and new apprentices in safe working practices and in awareness of, and preparedness for, workplace hazards.

As part of UPM's decision affecting several mills, a major project was launched in Jämsänkoski to further reduce fossil carbon dioxide emissions from energy production. The project is also significant for ensuring energy security, particularly since the provision of solid fuels can sometimes be challenging. The existing standby oil-fired power plant boilers will be replaced by an electric boiler. The project will be operational in spring 2023. The Jämsänkoski mill is not dependent on natural gas and the supplier of the LPG used for paper drying has been replaced in 2022 due to supply constraints.

UPM's management, organisational performance, target setting and achievement, and environmental management were assessed by an internal audit in autumn 2022. The audit was based on a number of interviews with employees, previous internal and external audits, reviews of previously submitted documents and observations from mill visits. In summary, the audit found that the mill is effectively managed and that cooperation with the various internal and external actors is smooth and compliant.

Pia Siirola-Kourunen, HSEQ Manager

Kari Isokääntä, General Manger

UPM Jämsänkoski

Contribution to UN Sustainable Development Goals in 2022

Waste

Amount of waste taken to landfill

0 kg

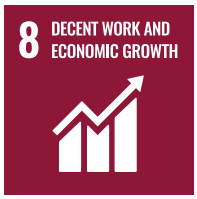
Waste is recovered as material or energy.

Certified fiber

87%

is the proportion of PEFC- and FSC-certified fibre used in paper production.

UPM's target is to use only certified fibre by 2030.



Safety

1,333 days

Mill (UPM's labour force) uninterrupted record period without an accident at work resulting in absence.

Taxes

Mill's tax impact approx.

EUR 22 million

Real estate tax EUR 0.34 million

Estimate of tax on salaries EUR 3.5 million.

Estimate of corporate income tax EUR 10.2 million based on the number of employees*

*Approximately 30% of corporate income tax is allocated to municipalities, which is then split between each municipality according to their share of business activities and forest operations.

Energy

The share of biomass-based fuels

79%

of the fuel used by the power plant.

Nature's biodiversity

The mill site and its periphery were fitted with about

80

bird boxes for different bird species.

Air

Energy

Fossil CO_2 emissions were reduced by

46%

in own power plant energy production compared to 2015 (scope 1)

Supply chain

91%

of raw materials spend qualified against UPM Supplier and Third Party Code (wood not included)

The Jämsänkoski power plant's air emissions were within the allowable limits set in the environmental permit. Total fossil carbon dioxide emissions at the power plant decreased as the use of peat continued to decline. The power plant's fossil carbon dioxide emissions have decreased by 46% compared to 2015. In line with UPM's 2030 target, the reduction target for fossil carbon dioxide emissions from Jämsänkoski's own energy production is a 65% reduction compared to 2015 levels. The target will be reached through further reductions in peat use and targeted investments.

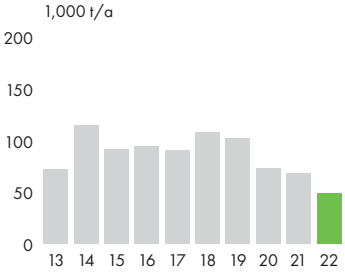
Sulphur dioxide emissions will significantly decrease compared to 2021. The decrease in emissions can be attributed to the reduction in the use of peat as well as sulphur-rich heavy fuel oil. The reduction in peat use also reduced nitrogen oxide emissions. Both sulphur dioxide and nitrogen oxide emissions have halved over the last ten years. Particulate emissions from energy production have remained at a very low level.

The use of biomass-based fuel – forest bioenergy, bark and sludge – decreased slightly compared to the previous year. These fuels' share of the total volume of fuel was 79%. During the strike in January 2022, the use of oil boilers increased significantly, resulting in an oil share of 5% that was higher than usual.

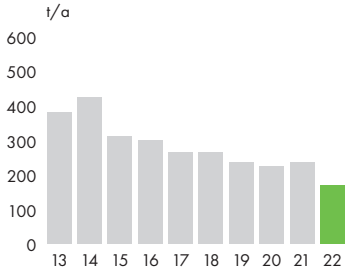
The Jämsänkoski mill will supply heat to the district heating networks in Jämsänkoski and Jämsä. The heat provided will account for approximately 10% of the mill's total heat production at the integrated site.

About 90% of the electricity used by the mill is purchased from outside the mill by UPM Energy. From 2022 onwards, electricity purchased from outside the mill has been carbon dioxide-free (scope 2).

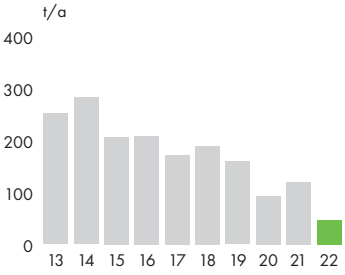
Fossil carbon dioxide, CO_2



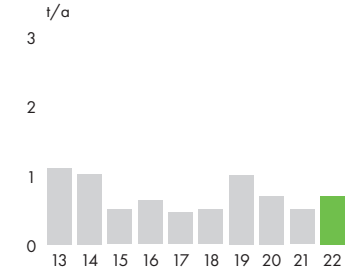
Nitrogen oxides, NO_x



Sulphur dioxide, SO_2



Particulates



Waste

All waste generated at the plant was sorted and delivered for reuse, either as material or through further processing. Fractions that the mill and other operators cannot use as materials were used as sources of energy. The amount of waste generated at the Jämsänkoski mill was lower than in the previous year.

The primary waste stream was composed of ash generated from the power plant, which was reduced compared to previous years due to decreased production levels. The ash met the requirements of the Fertiliser Product Act, and in addition to self-monitoring, the Finnish Food Authority monitored the quality of the ash. The fly ash and bottom ash from the power plant are CE marked, ensuring they meet the requirements guaranteed by the manufacturer and are technically usable in earthworks.

In 2022, the main uses of the ash were the Jämsä junction for the Finnish National Road 9 improvement project, the construction of forest roads in the Jämsä area, and its utilisation as a raw material in cement production. Ash was used in earthworks to replace natural stone and to increase load-bearing capacity and resistance to frost. Small amounts of ash were diverted to fields for soil improvement.

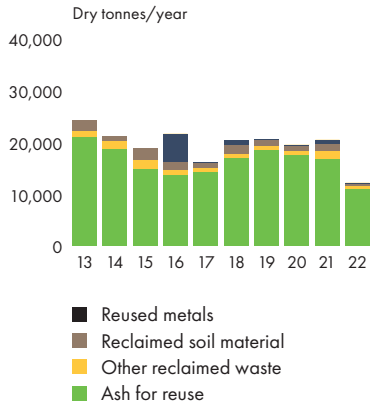
In addition to ash, the most significant waste streams were soil and metal scrap impurities transported to the mill with energy wood. The soil material carried with the energy wood was screened and diverted for use as roadbed material. The wood material separated during the screening process was diverted to fuel an on-site power plant. The scrap metal was sent for recycling to Kuusakoski Oy.

Plastics, paper and cardboard were recycled. Hazardous waste was sent to Fortum Oy in Riihimäki, where it was treated. Wood waste, plastics, and paper and board waste unsuitable for recycling were used to produce recovered fuel or sent to facilities such as the Biovoima energy plant for burning.

At the beginning of 2022, a large number of different process cleaning activities were carried out, which generated waste containing fibres and fillers. This waste was sent to the GRK Metsä-Kivelä treatment site, where the operator aims to recycle the waste into other materials.

Power plant ash is temporarily stored at the Vierelä landfill before being repurposed for beneficial uses.

Process waste



Water

The treated wastewater from the Jämsänkoski plant is discharged into the Jämsänjoki river. The river is also impacted by the city's municipal wastewater treatment plant and nonpoint source pollution from forestry and agriculture. The water quality of the River Jämsänjoki and the Tiirinselkä depends on the quality of water coming from the Lake Kankarisvesi. The water of the river is rich in nutrients and contains humus.

According to the monitoring results for central part of Lake Päijänne from the year 2021, the Jämsänkoski mill's wastewater accounted for 6.7% of the area's phosphorus load and 1.7% of its nitrogen load (Figure 1).

Nonpoint source pollution makes up a significant part of the load of Central Päijänne. The load coming from the water of the Lake Kankarisvesi, located above the River Jämsänjoki, accounted for on average 20% of the phosphorus load and 21% of the nitrogen load in the monitored area. The phosphorus load coming from upstream Jämsänjoki and the leakage area of Jämsänjoki and and the areas of Tiirinselkä and Lehtiselkä accounted for 42% of the total load and the nitrogen load coming from these same areas made up 36% of the total load in 2021. The organic load is also included in the nonpoint source pollution.

The amount of process water used in paper production per tonne of paper produced was at the previous year's level and was at the level required by the Best Available Techniques (BAT ref. 2014). A significant challenge to the effort to reduce process water use was posed by the different production situations during 2022.

The wastewater load from the Jämsänkoski plant was within the pollution limits stipulated by the environmental permit. The Jämsänkoski mill's environmental permit imposes both monthly and annual discharge limits on the wastewater's COD, phosphorus, nitrogen and solid material.

The organic load and the volume of water that entered the waste water treatment plant during the strike were very low. The biological phase of the treatment plant was maintained by producing a small amount of organic load and heat energy during the thermo mechanical

pulping process. The operation of the treatment plant and the water pollution were monitored both by continuous measurement and laboratory analysis, in cooperation with the environmental authority, to an agreed extent.

After the end of the strike, the plant's operations were quickly restored back to normal. Bioaugmentation, in which selected bacterial strains were added to the activated slurry, was used to improve the performance of the activated sludge. In addition, the phased start-up of the paper machine lines mitigated the excessively rapid growth of the organic load in the treatment plant. There were no emissions exceeding the permit limits during the strike or during the start-up phase of the plant.

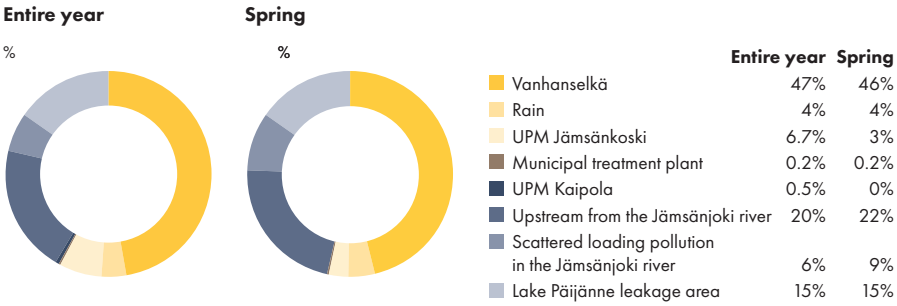
The Jämsänkoski plant's wastewater load decreased compared to the previous year in terms of organic load, solids load, phosphorus load and nitrogen load. The reduction in loads was the result of the production interruption in the early part of the year and the stable operation of the treatment plant. Of the nitrogen nutrient and phosphorus nutrient used in wastewater treatment, 31% and 68% respectively were recycled nutrients. Overall, the year was very stable in terms of environmental performance and there were no incidents in wastewater treatment.

Throughout the year, there were 59 environmental observations and minor deviations that were dealt with in the daily operations of the mills, in accordance with the UPM operating model.

At the end of 2022, the air intake compressors for the aeration basins of the biological treatment plant were replaced. This significantly increased reliability at a critical stage of the process in terms of environmental performance. In addition, savings in electrical energy can be expected thanks to the improved adjustability of the new equipment.

At the biological treatment plant, the renovation of the unloading station for chemicals used as nutrients to improve environmental and personal safety started in autumn 2022. Chemical dosing and storage equipment was upgraded to meet current practice, including chemical spill control. The new chemical unloading station will be operational in early 2023.

PHOSPHORUS LOAD



NITROGEN LOAD

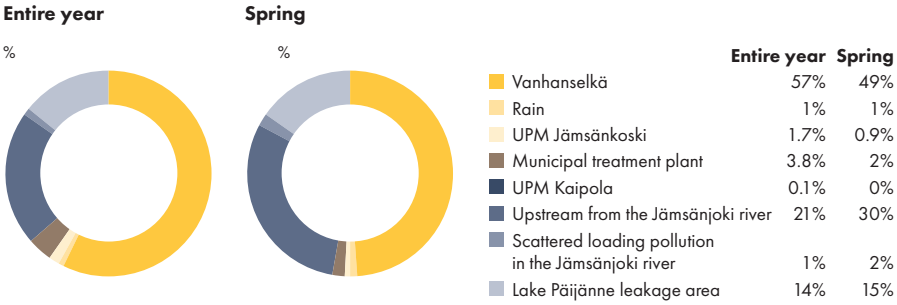
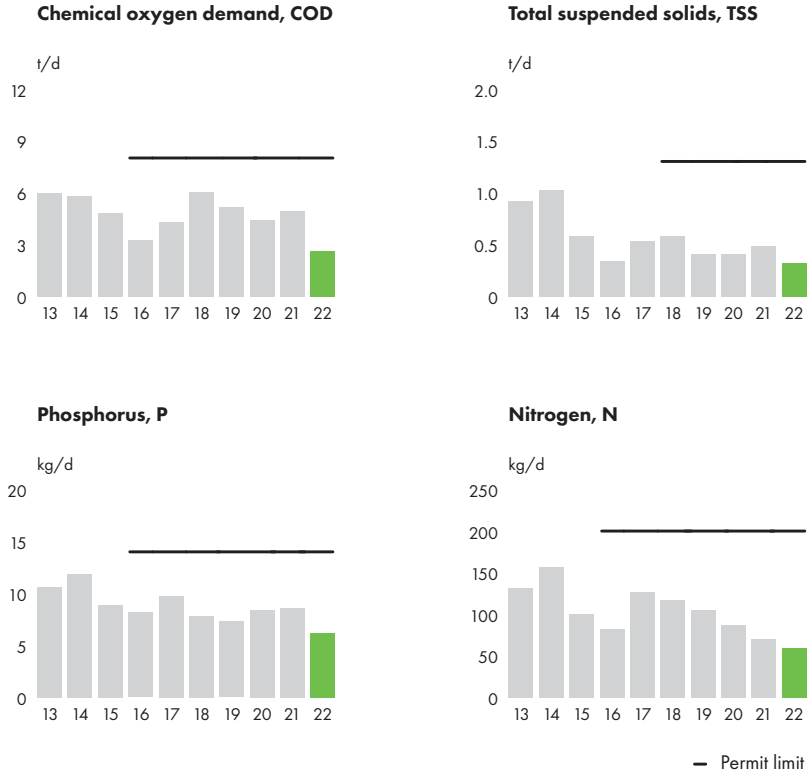


Figure 1. Distribution of phosphorus load and nitrogen load in the areas of Lake Tiirinselkä and Lake Lehtiselkä in 2021.



The environmental impacts of the mills, in terms of watercourses and fishery will be monitored by the Eurofins Environment Testing unit in Jyväskylä. The monitoring is carried out in accordance with the programme approved by the Centre for Economic Development, Transport and the Environment, in co-operation with Jämsän Vesi Oy, the water services company of the Jämsä area. Air quality is being monitored in co-operation with the district heating company Jämsän Aluelämpö Oy and the town of Jämsä.

Management of crises and exceptional situations

The Jämsänkoski mill's joint operations are responsible for occupational and mill safety, environmental protection, quality, mill services and energy. The group's general functions also operate in our unit: business control, sourcing, IT and HR services.

The activities of the mill safety organisation cover expert tasks regarding occupational safety, mill security, firefighting and rescue operations, and the control of hazardous substances. Drills related to exceptional situations are an important part of the preventative safety work.

The Jämsänkoski mill management, general function organisations and the safety organisation are responsible for the prevention of exceptional situations and the operational management of crises and exceptional situations. The general manager leads the management of exceptional situations. Mill experts support the general manager in these efforts by providing specific expertise. In the event of a major exceptional situation, these experts form the mill's crisis management team, which is responsible for the operational management of the situation. Firefighting and rescue operations are always led by the rescue authorities.

The mill has emergency procedures and rescue and firefighting plans for exceptional situations. A major exceptional situation is an unforeseen chain of events that proceeds rapidly and has a significant impact on operations. Exceptional situations include serious accidents and hazardous situations (large fires, explosions and chemical and traffic accidents on the mill site), environmental damage, serious work-related accidents, cybersecurity threats and information attacks.

Societal responsibility

The Arvajankoski Rapids returned to their natural state to the benefit of the lake trout

The restoration of the Arvajankoski Rapids in Jämsä was carried out in autumn 2022, involving the dismantling of dam structures, the end of water regulation and the restoration of the rapids. The project was implemented in the summer of 2021 in accordance with the permit application submitted to the Regional State Administrative Agency for Western and Central Finland. The first steps for the project were already taken in the preliminary planning for 2019, which was carried out together with the North Savo Centre for Economic Development, Transport and the Environment.

The old dam structure and pumping station building were demolished and a new dam was built to raise the height of the water level. The dam created a pathway for fish and other aquatic life up to 19 kilometres away, all the way to the Lake Isojärvi. After restoration, the evolution and ecological continuity of the fish stock will be monitored. The Arvajankoski project, supported by UPM, was part of the NOUSU programme led by the Ministry of Agriculture and Forestry to improve conditions and natural reproduction opportunities for migratory fish.

The restoration will allow lake trout to have unhindered access to the upstream watercourse. The site has garnered significant positive attention both locally and nationally. Arvajankoski has also undergone significant visual improvements, rendering it a scenic and aesthetically pleasing location.

Biodiversity can be promoted even on the mill site

In spring 2022, a project was launched with local birdwatchers to support biodiversity by installing bird boxes on the outer wall of a former mill building on the surrounding areas of the mill site, especially for sparrows, swifts and starlings. The project continued with the installation of bird boxes in the wooded areas of the mill, at least for redstars, flycatchers, blue jays, tawny owls and goldeneye ducks. The northern goshawk is also getting its own nesting site. Avitus, a local work training foundation, has produced around 80 bird boxes and the rest will be installed in suitable locations in spring 2023.

Product safety and sustainable development

Customer enquiries regarding our products have been mainly related to product safety, the origin of wood raw materials, forest certification, carbon footprint, recyclability and various management systems. Forest certification, and the origin of our timber raw materials, were of interest to both the customers who bought label and packaging paper and those who bought magazine and newsprint paper. Information on the origin of wood and its carbon footprint has been highlighted in recent customer surveys.

Product safety is especially important in the case of label and packaging papers used by the food industry. Our papers are safe to use throughout their product lifecycles, and papers with food contact certificates can be used in direct contact with dry and non-fatty foods. Certain types of paper are also suitable for use with moist and fatty foods. Our papers are also recyclable and industrial compostability certificates have been obtained for selected products in tests.

Changes in consumer behaviour, such as the growth of e-commerce and increasing demand for sustainable products, had a positive impact on Jämsänkoski Specialty Papers' operations. Cooperation and product development projects increased the range of recyclable fibre-based products as an alternative to non-renewable materials.

At Jämsänkoski, the properties of barrier papers in particular are constantly being developed to enable them to be used for the most demanding end-uses, such as packaging frozen food.

Specialty papers can be used, for example, in food packaging as an alternative to plastic laminated packaging solutions.

External performance evaluations improve operations
UPM Finland's paper mills have a joint Multisite certificate and the external auditor is Inspecta Sertifiointi Oy. The certification includes the IS0 9001 quality management system, the ISO14001 environmental management system, the ISO 45001 occupational health and safety management system and the ETJ+ energy efficiency management system. In addition, the ISO 22000 food safety management system applies to speciality papers. PEFC and FSC are systems for monitoring the origin of wood.

The 2022 external audit was in November. Two minor non-conformities were recorded in the audit. One non-conformity was related to occupational safety and the other one to food safety. Corrective measures have been identified and implemented for both anomalies.

Inspecta Sertifiointi Oy's auditors found that internal audits, as well as internal audit and management inspections, have been carried out as planned. Experts from UPM's Rauma paper mill carried out an internal audit at Jämsänkoski in autumn 2022. Internal audits also effectively share ideas and best practices, with lessons learned from both sides.

No non-conformities were found in the spring internal audit on the wood origin monitoring systems. The auditor found the operation to be compliant.

Safety
UPM aims for a world-class safety performance and our goal is zero accidents. The safety perspective is included in all projects and proactive safety work is carried out, for example through high-quality risk assessments. An effective way to learn is to share and benefit from safety observations and best practices from other units.

In Jämsänkoski, a total of 424 safety rounds and discussions, incident reports and safety and environmental observations were recorded in the OneSafety safety system by UPM personnel and service providers in 2022.

In 2022, the plant's personnel participated in accident response training, evacuation drills, initial fire-fighting drills, occupational safety card training and firefighting card training. Induction training for temporary workers was also organised at the mill.

By utilising the experience gained and UPM's best practices, the mill has continued to improve personal and fire safety at various sites, for example, we made improvements in fire compartmentalisation, enhanced our fire-extinguishing systems and further refined our safety practices for hot work. Based on an incident report from the transporter, driver's safety was improved by adding a fall protection system at the chemical unloading site. After installation, the functionality of the system was reviewed with a driver.

UPM's safety audit examines compliance with safety standards and environmental, quality and energy efficiency performance. For Specialty Papers, the audit also includes food safety. Audits between mills are carried out every two years according to a separate plan. The 2022 safety standards focused on roles and responsibilities, chemical management, personal protective equipment and corrective actions for past incidents.

In 2022, UPM's lost-time accident frequency (LTAF) – i.e., the number of on-the-job accidents that led to worker absences, per million working hours – was 3.2. The total recordable injury frequency (TRIF) – i.e., the number of accidents per million working hours – was 6.4. The TRIF figure includes not only accidents that lead to worker absence, but also any accidents that require medical treatment or compensatory/rectifying work. At the Jämsänkoski mill in 2022, the LTAF was 1.5 and the TRIF was 4.6.

Health and well-being at work
Employees' ability to work was also taken care of through a wide range of health checks. These health checks include both age group-based examinations and statutory examinations for people whose job duties involve a risk of hazardous exposure. The most common periodic check is a hearing test for people who work under noisy conditions. The age-based health check is carried out through an electronic health questionnaire sent by Pihlajalinna every 10 years for employees from 30 years old onwards and every 3 years for employees from 45 years old onwards. New employees are always subjected to an employment general check, which includes a mandatory drug test for all.

Due to the coronavirus pandemic, masks have been distributed to the personnel for use during their time off, as well as coronavirus home test kits.

Additionally, UPM subsidizes sports and cultural benefits to support the employees' leisure time activities. More options have been added to the offering in line with personnel requests.

Tax impact
The tax revenue generated by UPM's operations has a significant social impact. We pay corporate income taxes in the countries where we create added value and generate profits resulting from that. Due to our corporate and operational structure, we mainly report and pay corporate income taxes in the countries of production and in the countries where innovations are being developed. In addition to the income taxes that we pay, our various production inputs and outputs are also subject to taxation. Taxes are paid in accordance with the local tax decrees and regulations.

In 2022, UPM's corporate income taxes paid and property taxes were approximately 349 million euros in total (306 million euros in 2021).

The operations of our mills also support local communities in many ways. The property taxes paid and the municipal share of corporate income taxes support the local economy. In addition, the municipal taxes and social security contributions that the employees pay from their wages have a significant local impact. Furthermore, the purchasing power of UPM's employees and subcontractors maintains and enhances the vitality of local communities.

Environmental parameters

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

		2020	2021	**2022**
Production capacity	Paper	625,000 t	625,000 t	625,000 t
Raw materials	Timber Recovered paper Pulp Fillers and coating pigments Process chemicals	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Energy	Biomass-based fuels Fossil fuels	77% 23%	81% 19%	79% 21%
Emissions to air	Particulates Sulphur dioxide, SO_2 Nitrogen oxides, NO_2 Fossil carbon dioxide, CO_2 (fossil emissions from own energy production, scope 1) Fossil carbon dioxide, CO_2 (fossil emissions from purchased energy, scope 2)	0.7 t 93 t 225 t 72,480 103,098 t	0.5 t 120 t 235 t 67,917 t 114,061 t	0.7 t 46 t 169 t 48,796 t 0 t
Water intake	Process and cooling water	11,813,576 m^3	12,061,573 m^3	7,368,435 m^3
Discharges to water	Cooling water Effluent discharge Chemical oxygen demand, COD Biological oxygen demand, BOD_7 Phosphorus, P Nitrogen, N	4,926,360 m^3 6,866,160 m^3 1,625 t 77 t 3.1 t 32 t	4 595 350 m^3 7 466 223 m^3 1 792 t 88 t 3.1 t 26 t	2,092,130 m^3 5,276,305 m^3 1,040 t 33 t 2.3 t 23 t
Waste[1)]	Taken to landfill for disposal For utilisation – ash – soil – metals – other To interim storage	0 t 17,343 t 998 t 311 t 804 t 0 t	0 t 16,676 t 1 309 t 881 t 1,546 t 0 t	0 t 10,830 t 386 t 233 t 676 t 0 t
Hazardous waste	 – of which recyclable waste oil	46 t 70%	52 t 43%	14 t 0%
Land use	– total amount of land usage – areas not permeated by water – nature conservation-oriented areas – nature conservation-oriented areas outside the place of business	79 ha 63 ha 16 ha 6 ha	79 ha 63 ha 16 ha 6 ha	79 ha 63 ha 16 ha 6 ha

[1)] Waste amounts given as dry weight

Performance against targets in 2022

TARGET	ACHIEVED	COMMENT
Jämsänkoski: 0 environmental deviations in categories 3–5	Yes	Operation in compliance with the emission limit values according to the environmental permits and no accidental emissions have occurred
Further improvement of safety performance in Jämsänkoski, TRIF < 3	No	The realised TRIF of the Jämsänkoski mill was 4.6
Contributing to the UPM Group's 2030 environmental targets – Fossil CO_2 emissions from the power plant reduced by 5% compared to 2021 – Use of industrial process water reduced by 5% compared to 2021	 Yes Partially	 – Fossil CO_2 emissions reduced by 28% compared to 2021 – Process water use in individual production months decreased in line with the target, but not for the whole year 2022

Targets for 2023

TARGET	MEASURES
Jämsänkoski: 0 environmental deviations in categories 3–5	Proactive measures and rapid response to incidents
Further improvement of safety performance in Jämsänkoski, TRIF < 3	Continued preventive safety work, such as safety discussions and rounds. Strengthening process safety as the implementation of the new UPM OHS standard and training progresses. From 2023 onwards, the TRIF number will also include contractors.
Contributing to the UPM Group's 2030 environmental targets – Fossil CO_2 emissions from the power plant reduced by 5% compared to 2022 – Use of industrial process water reduced by 5% compared to 2022	 – The power plant has a plan to replace peat with biomass-based fuels Successful commissioning of the electric boiler project in 2023. – The possibility of reducing water use is promoted by the plant's working groups, which identify potential measures. Supporting projects to reduce water use.

EMAS
Verified environmental management
REG.NO. FI - 000058

Validation Statement

As an accredited environmental verifier (FI-V-0001), Inspecta Sertifiointi Oy has examined the environmental management system and the UPM Jämsänkoski Environmental and Societal Responsibility Statement 2022 as well as the information concerning UPM Jämsänkoski mill in the Updated UPM Group Environmental and Societal Responsibility Report 2022.

On the basis of this examination, the environmental verifier has herewith confirmed on 2023-04-11 that the environmental management system, the UPM Jämsänkoski Environmental and Societal Responsibility Statement 2022 and the information concerning the UPM Jämsänkoski mill in the UPM Corporate Environmental and Societal Responsibility Statement 2022 are in compliance with the requirements of the EMAS Regulation (EC) No 1221/2009.

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