

UPM Jämsä River Mills

# ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY 2020



# UPM Jämsä River Mills

UPM's Jämsä River Mills – Jämsänkoski and Kaipola – are located in the Jämsä River Valley in Central Finland. The Jämsänkoski mill is located on the banks of the Jämsänjoki River, and the Kaipola mill stands on the edge of Lake Päijänne. Production at Kaipola mill started in the 1950s and at the Jämsänkoski paper mill in the 1880s.

The mills function as a unit, with a total of six paper machines in operation. The Jämsänkoski mill produces uncoated magazine paper, as well as various label and packaging papers, and the Kaipola mill produces coated magazine paper, catalogue paper, and newsprint paper.

The main raw material for the magazine paper produced at Jämsänkoski is mechanical pulp made of spruce pulpwood, and the main raw material for the label and packaging papers is chemical pulp, sourced from UPM's own mills or the market. The main raw materials for Kaipola's products are spruce pulpwood and recovered household paper.

Both mill sites have a debarking plant, a thermomechanical pulp (TMP) plant, a water plant, a biological effluent treatment plant, and a power plant. The Kaipola site also includes a deinking plant for recovered household paper. At both mill sites, the heat and a small portion of the electricity required for mill processes are produced by the mill's own power plant. Heat is also recovered from the TMP plants.

The water used by the Jämsänkoski mill is sourced at Koski-Keskinen and Iso-Ryöni, and the Kaipola mill takes its water from the Tiirinselkä area of Lake Päijänne.



|                             |  |
|-----------------------------|--|
| <b>Production capacity</b>  | 1,365,000 tonnes of paper  |
| <b>Personnel</b>            | 815  |
| <b>Products</b>             | <p><b>Magazine paper:</b> UPM Cat, UPM Impresse, UPM Impresse Plus, UPM Max, UPM Max S, UPM Smart, UPM Cote, UPM Ultra, UPM Ultra Silk, UPM Valor</p> <p><b>Newsprint:</b> UPM News, UPM Brite, UPM Book, UPM Color, UPM EcoBasic, UPM EcoLite, UPM EcoPrime, UPM Opalite, UPM Opalite Plus</p> <p><b>Label and packaging paper:</b> UPM Label Papers, UPM Packaging Papers</p>  |
| <b>Certificates</b>         | <p>EMAS – EU Eco-Management and Audit Scheme</p> <p>ISO 14001 – Environmental Management System</p> <p>ISO 50001 – Energy Management System</p> <p>ISO 9001 – Quality Management System</p> <p>ISO 22000 – Food Safety Management System</p> <p>ISO 45001 – Occupational Health and Safety Management System</p> <p>PEFC™ Chain of Custody – Programme for the Endorsement of Forest Certification</p> <p>FSC® Chain of Custody – Forest Stewardship Council®</p> <p>All certificates can be found from UPM's Certificate Finder (available at <a href="http://www.upm.com/responsibility">www.upm.com/responsibility</a>)</p> |
| <b>Environmental labels</b> | EU Ecolabel  |



UPM Jämsä River Mills Environmental and Societal Responsibility 2020 is a supplement to the Corporate Environmental and Societal Responsibility Statement of UPM's pulp and paper mills (available at [www.upm.com](http://www.upm.com)) and provides mill-specific environmental and societal performance data and trends for the year 2020. 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 2022.

UPM delivers renewable and responsible solutions and innovates 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 18,000 people worldwide and our annual sales are approximately EUR 8.6 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. [www.upm.com](http://www.upm.com)



The mark of responsible forestry

For more information about FSC certification visit [www.fsc.org](http://www.fsc.org)



For more information about PEFC certification visit [www.pefc.org](http://www.pefc.org)



EU Ecolabel : FI/011/001

# Review of the year 2020

For the Jämsä River Mills, 2020 was a difficult, bifurcated year. The first months of the year proceeded in largely the same way as 2019 had ended. The demand for speciality papers was at a good level, whereas the reduced European demand for graphic printing papers seemed to be continuing along the same lines as in the second half of 2019, having dropped by about 10%. This poor demand forced the continued furloughing of employees working on the newsprint machines at Kaipola, a process that had started during the previous autumn.

In March, the situation changed dramatically when the Covid-19 virus, which had originated in China, arrived in northern Italy and spread from there to the entirety of Europe, creating a worldwide pandemic. The emergence of Covid-19 almost completely halted the demand for graphic paper during the 2nd quarter, whereas due to a sharp increase in online purchasing, the demand for speciality papers such as labels grew.

In October, as a result of the severely depressed demand and several non-production cost factors in Finland, such as logistical costs, challenging regulations and taxation, high labour costs, and pressures on the price of fibre, UPM made the decision to close the Kaipola mill by the end of 2020 and reorganise the Jämsänköski mill's operations.

Covid-19 also changed our operating procedures from the spring of 2020 onwards. Coronavirus measures were put in place on the basis of the Pirkanmaa Hospital District and THL's (the Finnish Institute for Health and Welfare) recommendations, the current Coronavirus situation in the immediate region, and the practices that UPM had otherwise found

to work best. In the spring of 2020, we immediately expanded our employees' ability to work remotely, and we physically separated the different departments so as to minimise physical contact. The requirement of good hand hygiene throughout the work day, and the mask use requirements that came into force in the autumn, applied to both UPM's own personnel and any contractors who were on the mills' premises. All unnecessary assemblies of people were prohibited. In practice, this meant that the mills' meetings began to take place through remote conferencing, classroom trainings were no longer held, and guests were no longer admitted onto the mill premises in other than exceptional cases. Employees were given the ability to take a Coronavirus test even when they had very minor symptoms. Contractors were given instructions on our Coronavirus practices, and a set of detailed guidelines was created for large maintenance shutdowns affecting various different work zones. Customer visits to the mills were almost completely stopped. Newsprint customers from Finland only visited Kaipola in the early autumn of 2020, when the Covid-19 situation had somewhat calmed down.

Overall, compliance with the instructions and practices has been highly successful from all corners. Thanks to our preparatory measures, we survived the Corona pandemic in 2020, and we will continue persevering in 2021.

## **Challenging year ends with the shutdown of Kaipola**

The wastewater treatment operation at Kaipola had a very variable year in 2020, due to frequent shutdowns and restarts of the mill and production line. The permit thresholds for purified wastewater were not exceeded at any point; however, challenges were brought by

(in particular) the need to adjust the dispensed nutrients to match the organic load arriving at the treatment plant. In wastewater treatment, delays are long – the effect of applied treatments can only be verified after several days. The operational monitoring of the treatment plant was expanded with the addition of extra measurements, with a particular focus on nutrients. Additionally, to increase the efficiency of the activated sludge section of the treatment plant, bioaugmentation – in which the sludge is mixed with a bacterial base that speeds up the growth of activated sludge – was implemented after the end of a long shutdown at the mill. Late in the year, the activity involved in permanently shutting down the Kaipola mill and treatment plant caused a short-lived odour problem. The shutdown of the production facility and treatment plant has proceeded according to plan; the treatment plant will cease operations in early 2021.

## **Odour problems addressed at Jämsänköski**

At Jämsänköski, the active carbon filters installed in late 2019 to filter the exhaust fumes from the sludge treatment building have worked as planned, reducing the unwanted odours from these fumes. The roughly 1-year replacement interval for the activated carbon ensures that this mechanism will work well for a long period of time. Efforts to reduce the unwanted odours from the wastewater itself will continue, drawing on experiences from the wastewater treatment operations at Kaipola.

## **Reduced noise pollution**

After work was done to reduce noise pollution at both Kaipola and Jämsänköski, noise measurements and modelling were conducted, and the noise reports have been submitted to the environmental authorities. The noise ►

- ▶ reduction efforts included the installation of new location-specific noise-dampeners, and refurbishment of the existing ones.

The total calculated noise emissions from both Kaipola and Jämsänkoski's noise-producing locations clearly decreased with the new and refurbished dampeners at these locations. According to the calculation model used at Jämsänkoski, the efforts to dampen the various noise sources have reduced the factory area's noise levels in all the cardinal directions. To the east of the mill area, noise levels on the sites of the nearest residential buildings dropped by 1–4 dB; to the west of the mill area, the corresponding figure was 5 dB.

### **Development of Arvajankoski rapids**

In 2019, preliminary planning on the potential development of the Arvajankoski rapids was conducted in collaboration with the ELY Centre (Centre for Economic Development, Transport and the Environment) of North Savo. In this preliminary planning, we examined the options for dismantling the Arvajankoski dam structures and ending the water regulation, the rehabilitation of the rapids area, and the potential effects of these actions. This work progressed in 2020, as an outside consultant was brought in to assist with final planning for the rehabilitation efforts. In the planning process, feedback from the preliminary round has been taken into consideration, and the steering group has worked to ensure that the process reaches a feasible end in keeping with our goals. The final round of planning is to be completed in the spring of 2021.

### **Product safety and sustainable development**

Customer enquiries regarding our products mainly related to product safety, the origin of wood raw materials, forest certification, the amount of recycled fibre used in paper, and various management systems. Forest certification, and the origin of our wood raw materials, were of interest to both the customers who bought label and packaging paper and those who bought magazine and newspaper. In recent customer enquiries, the origin of wood has been one of the most popular topics.

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.

A certification for use involving contact with food was obtained for the label papers. It guarantees that the products comply with the German BfR Recommendation XXXVI and US FDA regulation Title 21 CFR, Parts 170–189. The ISO 22000 certificate held by the Jämsänkoski Speciality Papers unit guarantees that our operations meet the demands of the standard as part of the food supply chain. The raw materials used in our products are suitable for food-contact use with the end consumer, and our processes and products meet the required standards of cleanliness. The raw materials we use and our end products are always traceable.

In the sector of our business focused on speciality papers, active efforts are underway to develop recyclable and renewable barrier papers that can be used for packaging and wrapping. Such papers can be used to replace (e.g.) the single-use, plastic-coated packaging currently used with food products.

### **Operational assessments postponed to 2021**

Due to the decision to close the Kaipola mill and the Covid-19 pandemic, the so-called Multisiteassessments that were to be conducted between the different UPM mills, as well as the planned assessments by outside parties, were postponed to 2021. Outside parties have generally been prohibited from visiting the mills in order to prevent exposure to Coronavirus. Even the movement of our personnel on the mill grounds has been highly restricted in order to minimise physical contact. Thus, even the internal audits between the different mill departments have been postponed to a later date.

Starting in 2021, we will be complying with the ISO 45001:2018 occupational health and safety standard. This standard emphasises management engagement, change management, risk assessment, and stakeholder co-operation.

### Environmental permit review applications

The Vierelä landfill site in Jämsänkoski received an environmental permit decision at the end of 2018. An appeal of this decision was ruled on by the Vaasa Administrative Court in late 2020, and the permit is now in effect. Per the decision, it is permitted to use the Vierelä dumping site as an interim

storage site for the power plant's ash when necessary. There has been no need for actual landfill operations in recent years. The total surface area of the Vierelä landfill site is approximately 8.5 ha. Approximately 3.5 ha of this area is a closed disposal area, approximately 2 ha is an available disposal area, and approximately 3 ha is an unbuilt area. 1.5 ha of the closed area is made up of interim storage field. To reach the Vierelä dumping site, one must pass through an inhabited area. The transport of temporarily stored ash to its places of utilisation is a multi-phase process, and local residents have contacted us regarding ash-dust on the road. Although the actual ash loads are covered up during

transport, additional ash may get into sections of the transport vehicle during the process of loading at the interim storage field. The transport company was informed of the complaint received, and the road was washed clean of ash.

At Kaipola, the Pitkäniemi dumping site had a remaining unsealed fill area of about 1.6 ha, but this was sealed in 2020, in accordance with the terms of the environmental permit decision. The permit decision stipulated that the sealing needed to be supervised by an outside quality monitor, approved by the Central Finland ELY Centre. The documents pertaining to the sealing, and the required documentation for the sealing materials, were submitted to the environmental authorities.

The environmental impacts of the mills, in terms of watercourses and fishery, are being 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 the Water and Transport Authority of Jämsä. Air quality is being monitored in co-operation with Jämsän Aluelämpö Oy and the town of Jämsä.



*Pia Siirola-Kourunen*

Pia Siirola-Kourunen, Environmental Manager

*Antti Hermonen*

Antti Hermonen, General Manager

# Responsibility figures 2020

## Waste



Amount of waste taken to landfill

**0 kg**

Waste is recovered for use as materials, or for energy.

## Certified fibre



**77%**

of fibre used in paper production was FSC and/or PEFC certified. UPM's target is to use only certified fibre by 2030.



## Recycled fibre

**32%**

of the fibre used at Kaipola.

## Taxes



Mills' local tax impact approx.

**18 million euros**

Real estate tax 0.8 million

Estimate of tax on salaries 7.3 million

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

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



## Energy

The share of biomass-based fuels

**77%**

of the fuel used by the power plants.

## Safety



# 4,025

environmental and safety observations, near-misses, safety walks and discussions recorded by the employees and contractors of UPM Jämsä River Mills

## Consumption impact\*



Mills' consumption impact in region approx.

# 35 million euros

In Finland approx.

# 61 million euros

\* Direct and indirect employees' private consumption of commodities through net income

## Supply chain



# 99%

of raw material spend covered by UPM Supplier and Third Party Code (wood not included)

## Employment



Mills employed

# 815 people

and offered

# 101 summer jobs

Indirect employment effect in region approx.

# 800 persons



Power plant emissions into the air remained below the maximum permitted levels. At the Kaipola and Jämsänkoski power plants, there was a clear decrease in fossil carbon-dioxide emissions, due to a reduction in the use of peat. A downward trend in other types of emissions, as well, continued relative to the previous year.

Nitrogen oxide emissions continued to develop in a favourable direction at both mills, thanks to new regulatory models and to the dispensing of urea solution into the combustion chamber. These measures help to achieve the new limits of flue gas emissions launched on 1/7/2020.

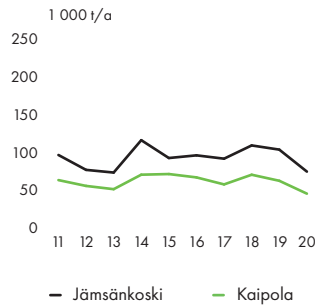
The use of biomass-based fuel – forest bioenergy, bark and sludge – increased slightly compared to the previous year. Such fuels' share of the total volume of fuel was 77%. The use of oil amounted to less than 2% of the total at both plants.

Particulate measurements have indicated that the average air quality in the town of Jämsä has, for the most part, been good. In particle measurements carried out in the spring, air quality was satisfactory due to the dust from the streets. The key sources of particulates in the air are traffic, the heating of buildings and a variety of diffuse emissions. Monitoring has shown that industrial and energy production plants generate very few particle emissions.

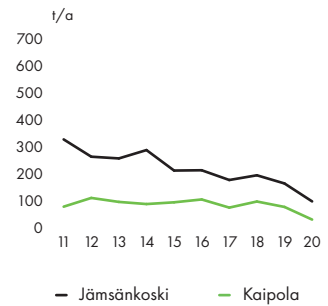
Most nitrogen emissions in the Jämsä region come from road traffic and the production of energy. The concentrations of nitrogen oxide measured in the town centre are below the guideline value.

The Jämsänkoski mill provides district heat to the district heating network in Jämsänkoski and Jämsä. The share of the heat provided is approximately 10% of the mill integrate heat production.

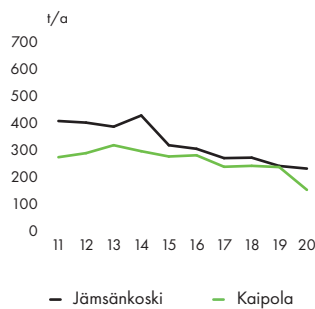
### Fossil carbon dioxide, CO<sub>2</sub>



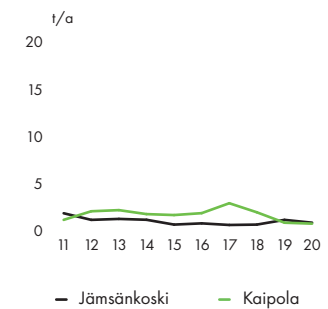
### Sulphur dioxide, SO<sub>2</sub>



### Nitrogen oxides, NO<sub>x</sub>

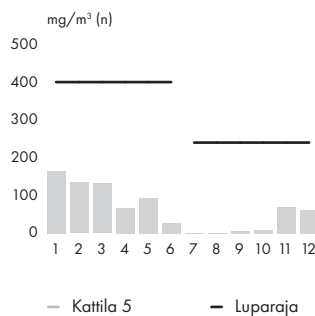


### Particulates

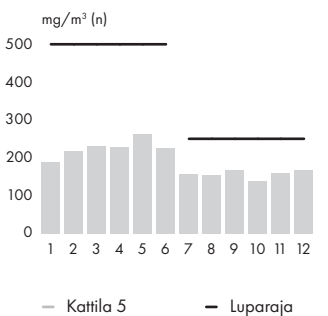


### SPECIFIC EMISSIONS FROM THE POWER PLANT'S MAIN BOILER, Jämsänkoski

#### Sulphur dioxide, SO<sub>2</sub>

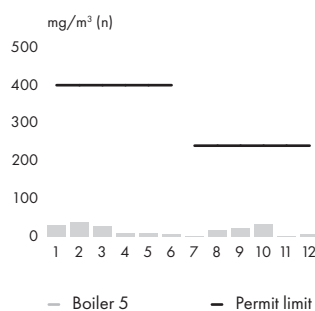


#### Nitrogen oxides, NO<sub>x</sub>

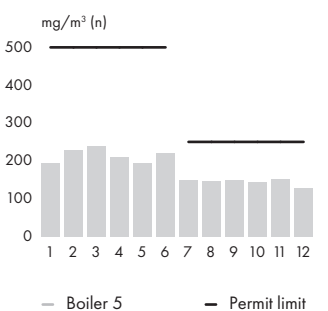


### SPECIFIC EMISSIONS FROM THE POWER PLANT'S MAIN BOILER, Kaipola

#### Sulphur dioxide, SO<sub>2</sub>



#### Nitrogen oxides, NO<sub>x</sub>





# Waste



One of UPM's worldwide goals for 2030 is that industrial process waste will no longer be disposed to landfills, or burned without the energy recovery, at any of UPM's operating sites. The objectives support the United Nations' sustainability development goals for 2030.

All waste generated is reused, either as is or after further processing. Fractions that the mill or other operators cannot use as materials are used as sources of energy. Because it would not be profitable, financially or environmentally, to transport these fractions far away from the mills for further processing, local partners play an important role in achieving this objective. The amount of waste generated by Jämsä River Mills decreased slightly from the previous year.

The largest waste fraction at both sites is ash from power plants, the level of which was lower than in 2019. All of the ash produced was reused. A significant portion of the ash was used for soil improvement, mainly in crop fields. The

ash contains high amounts of calcium, and also important trace elements, such as magnesium and potassium. The ash fulfils the requirements of Finland's Fertiliser Product Act, and in addition to the facilities' self-monitoring, the quality of the ash is inspected by the Finnish Food Safety Authority on a regular basis.

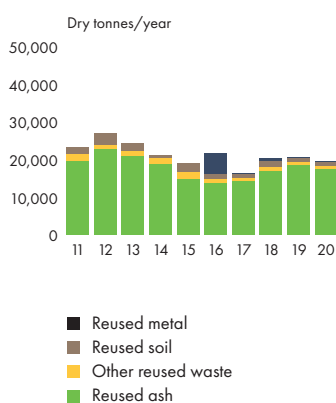
The possibility of utilising the ash in the production of organic fertiliser and cement-based products has been investigated as well. We will continue this development work in 2021.

Another significant reuse application has been construction. The most significant construction site in 2020 was the Tarastejärvi Circular Economy Park at Kangasala. Additionally, planning work was initiated for the implementation of a few other construction projects during 2021, in collaboration with the Central Finland ELY Centre and planning consultants. The ash is used in between layers of soil to replace natural rock material and improve the load-bearing capacity and frost resistance of the road.

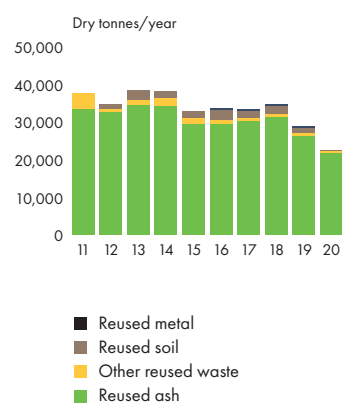
In addition to ash, the most important waste fractions were soil brought in on wood used for energy and drum reject generated during processing of recovered paper. As in previous years, the drum reject, consisting primarily of wood fibres and plastic, was sent to a local waste-management company to be used as raw material for recovered fuel. The soil material was sifted and sent to the Himos area for utilisation. The wood materials separated in the sifting process were forwarded to the Kaipola power plant for burning.

The mills' waste oils were sent to regeneration plants for reuse. Waste generated at the mills is carefully separated into different fractions, which are then reused as raw materials or for energy. Oils, metals, plastics, papers and cardboards are reused. Hazardous waste is sent to Fortum Oy in Riihimäki for processing by various methods. Wood waste, plastics, and paper and board waste unsuitable for recycling are used to produce recovered fuel or sent to facilities such as the Biovoima energy plant for burning.

Process waste, Jämsänkoski



Process waste, Kaipola



# Water



In compliance with UPM's environmental principles, the mills use water responsibly. The goal is to minimise the impact of the operations on local water resources.

Purified effluent from the Jämsänkoski mill is directed into the Jämsänjoki

river and from the Kaipola mill into the Tiirinselkä lake in Päijänne. Jämsänjoki is also impacted by the city's municipal treatment plant and scattered loading from forestry and agriculture. The water quality of Jämsänjoki and Tiirinselkä depends on the quality of water coming

from the Kankarisvesi lake. The water contains humus and is quite nutrient dense.

According to the 2019 joint monitoring results of Central Päijänne, Kaipola's effluents accounted for 7.1% of the phosphorus load and 2.6% of the nitrogen load in the monitored area. Correspondingly, Jämsänkoski's effluents accounted for 8.1% of the phosphorus load and 3.3% of the nitrogen load in the monitored area (Figure 1).

Scattered loading makes up a significant part of the load of Central Päijänne. The load coming from the water of Kankarisvesi, located above Jämsänjoki, accounted for on average 26% of the phosphorus load and 20% of the nitrogen load in the monitored area. The phosphorus load coming from above Jämsänjoki and the leakage area of Jämsänjoki and Tiirinselkä accounted for 54% of the total load. The nitrogen load coming from these same areas made up 43% of the total load. Organic load is also included in the scattered loading.

There was an increase relative to 2019 in the average amount of industrial process water used for each tonne of paper produced, particularly at Kaipola, due to the numerous shutdowns and restarts of mill operations. The use of industrial process water at Jämsänkoski was at the level required by the best available technology (BAT ref 2014). At Kaipola, the use of industrial process water slightly exceeded this level.

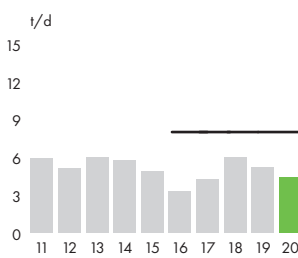
The effluent load of the Kaipola and Jämsänkoski mills remained below the emission limits according to environmental permits.

The wastewater load from the Kaipola mill was lower than that of the previous year with respect to the organic, phosphorus and nitrogen load. The solid material load was at the same level as the previous year. The environmental permit for the Kaipola mill imposes monthly discharge limits in regards to the wastewater's chemical oxygen consumption (COD), phosphorus, nitrogen and solid material. There are also annual discharge limits for COD and solid material, and target values for phosphorus and nitrogen.

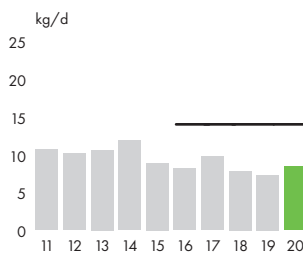
At the Jämsänkoski mill, the organic and nitrogen load in the larger wastewater load decreased relative to previous

## JÄMSÄNKOSKI

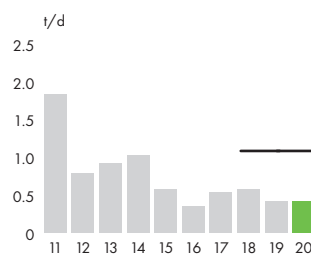
### Chemical oxygen demand, COD



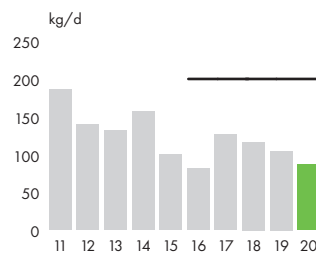
### Phosphorus, P



### Total suspended solids, TSS

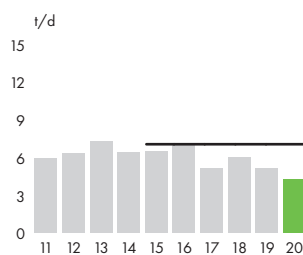


### Nitrogen, N

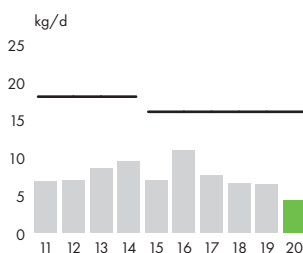


## KAIPOLA

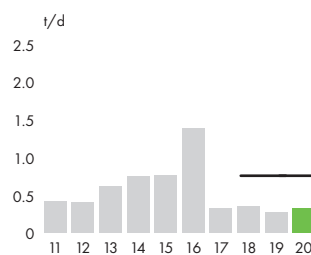
### Chemical oxygen demand, COD



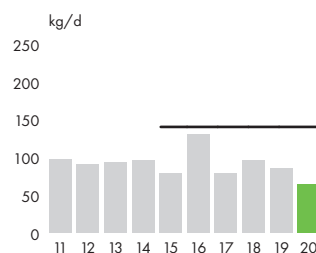
### Phosphorus, P



### Total suspended solids, TSS



### Nitrogen, N

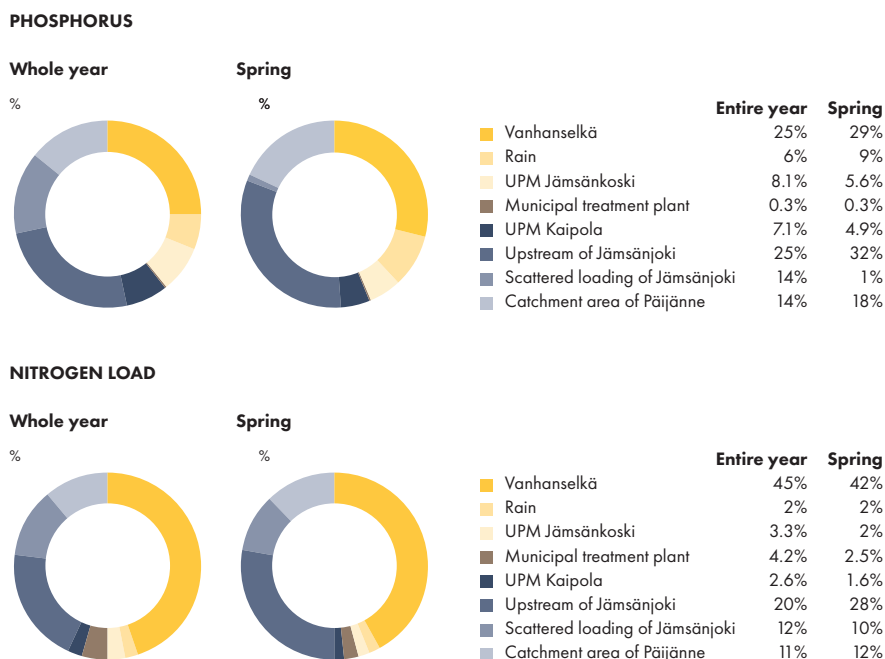


— Permit limit

year. The phosphorus load rose slightly compared to 2019, whereas the solid material load remained at the same level. The Jämsänkoski mill's environmental permit imposes both monthly and annual discharge limits on the wastewater's COD, phosphorus, nitrogen and solid material.

Over the past year, 69 observations and minor deviations of an environmental nature were recorded. They were addressed in the mills' daily operations, in accordance with the UPM operating model.

Figure 1. Distribution of Tiirin-Lehtiselkä's phosphorus load and nitrogen load in 2019.



## Organisational structure and management of exceptional situations (rescue team)

Jämsä Rivers Mills consist of two business areas as well as departments, which are responsible for safety and security, environmental protection, quality, mill services and energy. The group's functions also operate in our mills: business control, sourcing, IT and HR services.

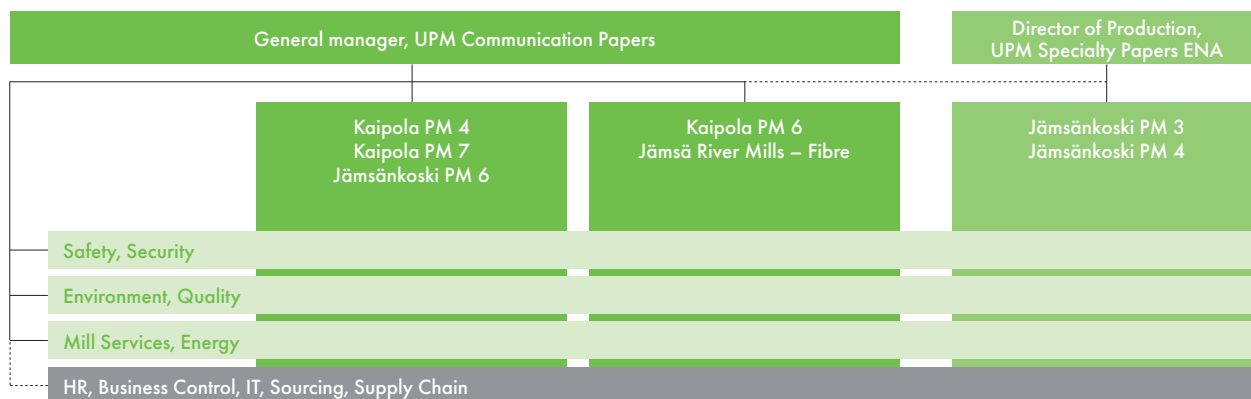
Jämsä River Mills management, departments and the safety organisation are responsible for the prevention of exceptional situations and the operational management of crises and exceptional situations. Jämsä River Mills has guidelines and rescue and firefighting plans for exceptional situations. The general manager heads the management of ex-

ceptional 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.

Jämsä River Mills has guidelines 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. In the event of a significant exceptional situation, the mill's crisis management team is responsible for the operational management of the crisis.

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



# Social responsibility

## Safety

UPM aims for world-class safety results. "Our goal is to have zero serious or deadly accidents. Our culture is always to do more than the minimum required to keep our own people, contractors and visitors safe. Additionally, when working at our sites, our business partners and their employees on our sites are required to follow safe work practices and to comply with our established rules and standards." – UPM Safety Rules.

Before accessing UPM production sites, contractors participate in UPM safety training, which presents and demonstrates basic safety requirements. This is complemented by job-specific safety inductions and work permits.

In addition to prevent Covid-19 infections, several measures were taken in 2020 in order to fulfil the Jämsä River Mills' safety objectives targeting such areas as mobile machinery and safety planning and monitoring of extensive shutdowns.

In 2020, employees and contractors recorded almost 4,025 safety reviews and discussions, near-miss situations and safety and environmental observations using the One Safety tool at Jämsä River Mills.

During the course of 2020, personnel at the Jämsä River Mills took part in trainings for accident situations, evacuation drills, first-aid fire-extinguishing drills, occupational safety card trainings, and hot-work card trainings. The mills also organised safety trainings for new apprenticeship trainees, and orientation sessions for substitute workers. In response to the Coronavirus situation, some of the trainings shifted to being held remotely, and others were held in groups of 10 people or less, per the Coronavirus response guidelines.

Contractor safety audits were conducted as part of a partnership with two local companies. The goal is both to review UPM's safety requirements and practices with contractors and ensure they are familiar with them, and also to ensure that UPM can provide a safe workplace for its contractors. With the local companies, it was emphasised that we aim to be a world-class example in safety matters. The audits involved a review of UPM's safety principles and operational guidelines; additional trainings in the important subject areas were organised for the companies when necessary. This work will

be continued insofar as the Coronavirus situation permits.

The Jämsä River Mills' fire protection team works closely with local fire brigades, holding drills several times a year at various high-risk sites on the premises, for situations such as chemical accidents or electrical fires.

By utilising past experiences and UPM's best practices, we have been able to further improve personal and fire safety in various sections of the Jämsä River Mills: for example, we made improvements in fire compartmentalisation, enhanced our fire-extinguishing systems, and further refined our safety practices for hot work.

In the area of chemical safety, a regular inspection of compliance with chemical safety requirements was conducted at the Jämsä River Mills by the Finnish Safety and Chemicals Agency in spring 2020. In response to the observed deficiencies and suggested improvements, appropriate actions were planned and have, for the most part, been carried out by now. No chemical-related accidents occurred in 2020.

At the Kaipola mill, investments were made in updating the power plant's chemical-receiving site, and increasing the volume of the buffer pool for heavy fuel-oil. Additionally, the receiving site for heavy fuel oil at Jämsänkoski was improved so as to comply with current requirements.

In 2020, 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 2.8. The total recordable injury frequency (TRIF) – i.e., the number of accidents per million working hours – was 5.3. The TRIF figure includes not only accidents that lead to worker absence, but also any accidents that necessitate medical treatment or compensatory/rectifying work. In 2020, the Jämsä River Mills had an LTAF of 0.8, and a TRIF of 7.5.

## Health and well-being at work

Employees' ability to work was also taken care of through a total of 568 versatile health checks. These health checks include both age group-based examinations and statutory examinations for people whose job duties involve a potential for hazardous exposure. The age group





examinations are performed every 5 years for people under the age of 50 and every 2.5 years for people over the age of 50. 197 pre-employment examinations were performed on new employees. Such introductory examinations include a drug test, which is mandatory for everyone.

### **The Biofore Share and Care programme**

We support sustainable development and promote the financial and mental wellbeing of the communities around us by participating in numerous community projects as a company. Our work in this arena is clearly connected to our Biofore Strategy and responsibility targets. It is coordinated under the umbrella of our Biofore Share and Care programme.

The Biofore Share and Care programme comprises three forms of support: sponsorships, donations and employee volunteering. The support can be a monetary contribution, products, materials or employee volunteering in projects agreed on locally. In 2020, significant support went towards assisting efforts to prevent the marginalisation of local children and youth, and also, as in previous years, towards cultural activities and sports clubs for youth.

### **Tax impact**

Tax revenue generated by UPM's business operations is an essential part of our

societal impact. UPM pays corporate income taxes in the countries where added value is created, and profit is generated. Based on UPM's corporate and operational structure, UPM reports and pays its corporate income taxes mainly in countries where production activity takes place and where innovations are developed. In addition to the taxes on income, UPM's various production inputs and outputs are also subject to taxation. Taxes are paid in accordance with the local tax legislation and regulations of the country in question.

In 2020, UPM's corporate income taxes paid and property taxes were approximately EUR 178 million in total (EUR 211 million in 2019).

The mills' operations also benefit the local community in many ways. Municipal share of corporate income taxes and the real estate taxes paid by UPM support the local economy. In addition, the taxes and social security contributions that UPM employees pay on their wages have also a significant local impact. Furthermore, the purchasing power of UPM employees and subcontractors maintains and enhances the vitality of the community.

### **Responsible sourcing**

UPM is committed to responsible sourcing practices throughout the entire

supply chain. We work closely with our suppliers to ensure that our suppliers understand and meet all of the company's requirements on sustainability and responsibility.

UPM requires its suppliers to comply with the UPM Supplier Code and Third Party Code (Code) that defines suppliers' minimum requirements in terms of responsibility with regard to matters such as environmental impact, human rights, labour practices, health and safety, product safety, corruption and bribery.

UPM's target is to have 100% of raw material spend and 80% of all spend covered by UPM Supplier and Third Party Code by 2030. In 2020, 96% of UPM's raw material spend and 84% of all spend was covered by UPM Supplier and Third Party Code.

Suppliers' environmental and social performance is followed through regular data collection and analysis. Based on the annual risk assessments, we select the suppliers whose performance we want to study more closely. If any non-conformancies are found, the supplier is obligated to make corrective actions. We follow actively the results of these actions and are ready to support our suppliers with our know-how in order to help them to enhance their performance.

# 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.

|                            |  | 2018   | 2019   | 2020   |
|----------------------------|--|--|--|--|
| <b>Production capacity</b> | Paper  | 1,345,000 t  | 1,365,000 t  | 1,365,000 t  |
| <b>Raw materials</b>       | Wood<br>Recovered paper<br>Pulp<br>Fillers and coating pigments<br>Process chemicals   | See UPM Corporate Environmental and Societal Responsibility Statement for more information |  |  |
| <b>Energy</b>              | Biomass-based fuels<br>Fossil fuels<br>Purchased energy <sup>1)</sup>  | 68%<br>32%   | 70%<br>30%   | 77%<br>23%   |
| <b>Emissions to air</b>    | Particulates<br>Sulphur dioxide, SO <sub>2</sub><br>Nitrogen oxides, NO <sub>2</sub><br>Fossil carbon dioxide, CO <sub>2</sub>                   | 2.3 t<br>281 t<br>500 t<br>175,340 t   | 1.7 t<br>231 t<br>465 t<br>161,752 t   | 1.3 t<br>118 t<br>371 t<br>115,891 t   |
| <b>Water intake</b>        | Process and cooling water  | 25,605,000 m <sup>3</sup>  | 24,605,000 m <sup>3</sup>  | 22,697,000 m <sup>3</sup>  |
| <b>Discharges to water</b> | Cooling water<br>Effluent discharge<br>Chemical oxygen demand, COD<br>Biological oxygen demand, BOD <sub>5</sub><br>Phosphorus, P<br>Nitrogen, N | 9,853,000 m <sup>3</sup><br>15,717,000 m <sup>3</sup><br>4,392 t<br>219 t<br>5.3 t<br>78 t | 9,050,000 m <sup>3</sup><br>15,523,000 m <sup>3</sup><br>3,752 t<br>150 t<br>5.0 t<br>69 t | 9,273,000 m <sup>3</sup><br>13,387,000 m <sup>3</sup><br>3,173 t<br>150 t<br>4.6 t<br>55 t |
| <b>Waste<sup>2)</sup></b>  | Waste to landfill  | 0 t  | 0 t  | 0 t  |
|                            | Recycled waste   |  |  |  |
|                            | – ash  | 48,044 t   | 44,417 t   | 39,007 t   |
|                            | – drum reject from the deinking plant  | 1,431 t  | 1,451 t  | 998 t  |
|                            | – soil   | 3,908 t  | 2,623 t  | 1,209 t  |
|                            | – metals   | 1,305 t  | 661 t  | 535 t  |
|                            | – other  | 1,478 t  | 1,530 t  | 1,208 t  |
|                            | Intermediate storage   | 0 t  | 0 t  | 0 t  |
|                            | Hazardous waste  | 129 t  | 132 t  | 198 t  |
|                            | – of which recyclable waste oil  | 73%  | 73%  | 82%  |
| <b>Land use</b>            | – Total use of land<br>– Total sealed area<br>– Total nature-oriented area on site<br>– Total nature-oriented area off-site                      | 160 ha   | 160 ha   | 184 ha<br>125 ha<br>59 ha<br>6 ha  |

<sup>1)</sup> See UPM Corporate Environmental and Societal Responsibility Statement for more information (e.g. energy indicators)

<sup>2)</sup> Waste amounts given as dry weight



# Performance against targets in 2020

| TARGET  | ACHIEVED      | COMMENT   |
|---|---------------|---|
| No environmental deviations in categories 3–5                                       | Yes           | No instances where permit thresholds are exceeded, and no deviant emissions   |
| At the Jämsä River Mills, improvement of safety results (JOK TRIF < 6.0)            | No            | The TRIF achieved at the Jämsä River Mills was 7.5  |
| The promotion of UPM group's environmental objectives for 2030 at Jämsä River Mills | Partially yes | The power plants' fossil CO <sub>2</sub> emissions decreased; the actions aimed at decreasing water consumption did not proceed forward                                   |
| Continue to combat the odour problem originating from the effluent of Jämsänköski   | Partially yes | The problem with exhaust odours from the sludge treatment building was solved by means of active carbon filters; the efforts concerning the wastewater are still ongoing. |

## Targets for 2021

| TARGET   | MEASURES   |
|--|--|
| JOK no environmental deviations in categories 3–5  | Fast reaction to deviations  |
| At the Jämsä River Mills, improvement of safety results (JOK TRIF < 6.0)   | Continue preventive safety efforts, such as safety discussions and safety rounds/reviews   |
| The promotion of UPM group's environmental objectives for 2030 at the Jämsänköski mill.<br>– reduction in the use of industrial process water by 5% compared to 2020<br>– reduction in energy consumption by 1% compared to 2020 | The mills have workgroups focused on possibilities for reducing water consumption. The monitoring of daily water consumption is being improved in order to support these efforts.<br><br>An energy workgroup has been established, and tasked with mapping out potential energy-saving actions and promoting their implementation. |



### Revalidation statement

As an accredited environmental verifier (FI-V-0001), Inspecta Sertifointi Oy has examined the environmental management system and UPM Jämsä River Mills Environmental and Societal Responsibility 2020 statement as well as the information concerning UPM Jämsä River Mills in the Updated UPM Corporate Environmental and Societal Responsibility Statement 2020.

On the basis of this examination, the environmental verifier has herewith confirmed on 2021-03-30 that the environmental management system, the UPM Jämsä River Mills Environmental and Societal Responsibility 2020 statement and the information concerning UPM Jämsä River Mills in the Updated UPM Corporate Environmental and Societal Responsibility Statement 2020 are in compliance with the requirements of the EMAS Regulation (EC) No 1221/2009.

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.**



**UPM Communication Papers Oy**  
**UPM Specialty Papers Oy**  
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