

UPM Kymi

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY 2022



UPM Kymi

The UPM Kymi integrated mill site in the Kuusankoski quarter of Kouvola produces pulp, paper and energy. The mill site, located on the shore of the Kymijoki River, is home to the UPM Kymi pulp mill and UPM Communication Papers Oy's Kymi paper mill. The key products of these mills are bleached birch and softwood pulp and uncoated and coated fine and specialty papers. The pulp mill is also a significant producer of bioenergy. In addition, pulp production generates crude tall oil and turpentine, which are used in the production of bioeconomy products. Fine and specialty papers are made from 100% chemical pulp. Birch, pine and spruce are used as raw materials.

Kymi has had a significant role in the birth and development of the local community for 150 years. Even today, our impact in the region is significant, both as a taxpayer and as an employer.

The production plants receive the heat energy and most of the electricity they need from the pulp mill's energy production and Kymin Voima Oy's biofuel power plant located on the mill site.

Schaefer Kalk Finland Oy's PCC plant is also located on the Kymi integrated mill site. Kymin Voima Oy's biofuel power plant and the PCC plant are not included in the scope of this report.



UPM Kymi 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

Production capacity	715,000 t of coated and uncoated fine paper 870,000 t of birch and conifer pulp
Personnel	708
Products	Fine papers: UPM Finesse, UPM Fine, UPM PrePersonal, UPM Poste, UPM Office, New Future, KymLux, UPM Digi Finesse, UPM Jetlabel, UPM Vellum, UPM Labelcoat Prime Pulp UPM Betula ja UPM Conifer
Bioenergy	Heat energy and electricity
Side-products	Lime sludge and sodium bisulphite
Residues	Tall oil and turpentine
Certificates	EMAS – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System ISO 9001 – Quality Management System ISO 22000 – Food Safety Management System ISO 45001 – Occupational Health and Safety System ISO 50001 – Energy Management System PEFC Chain of Custody – Programme for the Endorsement of Forest Certification FSC® Chain of Custody – Forest Stewardship Council All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility)
Environmental labels	EU Ecolabel UPM pulp products are approved for use in EU Ecolabel and Nordic Ecolabel paper products.



For more information about FSC certification visit fsc.org



For more information about PEFC certification visit pefc.org



Review of the year 2022

2022 was exceptional in many ways. This was reflected in environmental impacts and production volumes, among other things.

Our activities were affected by the strike early last year, the war in Ukraine and the coronavirus pandemic. During the strike, which started in early January and lasted almost four months, heat for the integrated mill's needs was in January produced by a natural gas boiler and from the beginning of February mainly by Kymin Voima's biopower plant. The wastewater treatment plant was operating at minimum capacity. The plant was monitored around the clock to ensure that any frost damage, equipment failures, leaks or other malfunctions were detected in time. There were no problems with environmental emissions during the strike.

Production volumes at the pulp and paper mill were lower than in the previous year. Due to the production interruption at the beginning of the year, the environmental impact was in many respects lower than in the previous year.

Operations in compliance with the environmental permit

Obligations related to environmental protection have been taken care of systematically and in accordance with the environmental permit.

The wastewater treatment plant worked efficiently throughout the year. There was one non-compliance with the environ-

mental permit limit: the chlorine content of acidic bleaching steam exceeded the permit limit in the annual measurements. The mill's emissions for all other areas were under the permit limits.

The integrated mill site's environmental objectives included activities under the Clean Run programme launched in 2011, reducing abnormal emissions, increasing environmental awareness among employees, decreasing water consumption and wastewater discharges, decreasing odour emissions and lime kiln particle emissions, increasing the reuse of process waste and reducing the amount of solid waste going to landfill as well as active participation in studies seeking to reuse green liquor dregs.

The Clean Run programme was part of the Kymi mill site's normal operations in 2022. All abnormal emissions were recorded with the One Safety tool and their underlying causes were studied. An environmental review was arranged once a week during the pulp and paper mill morning meetings to review environmental issues and the events of the previous week in more detail.

Five pieces of stakeholder feedback were received during the year, three of which were related to odours. The odour spread

to the surrounding area of the mill mainly during process disturbances, equipment failures and maintenance shutdowns and subsequent restarts. One piece of feedback was about wood chips on the cycle path and one about dust from area where the sawdust was stored.

During the autumn of 2022, the fugitive emissions to air from the mill were measured by an external operator in accordance with a study conducted in 2021. The measurement results showed that fugitive emissions were at low levels.

To ensure the good operation of the wastewater treatment plant in 2022, investments were made in sludge treatment efficiency by increasing dewatering capacity.

Proactive safety work

UPM's continuous target is zero accidents. We require all UPM employees and contractors to use the global One Safety reporting tool to report all near misses and safety and environmental observations. Reports are dealt with daily and corrective action is taken without delay.

We actively encourage our personnel to have safety discussions and to carry out safety walks around the mill. The targets set for proactive safety reports were exceeded at the paper mill.



Matti Laaksonen
Mill Manager
Kymi paper mill



Anna Laksio
Occupational Safety and
Environmental Manager
Kymi paper mill



Päivi Hyvärinen
Environmental Manager
Kymi pulp mill



Jyri Kylmälä
Mill Manager
Kymi pulp mill

Contribution to UN Sustainable Development Goals in 2022

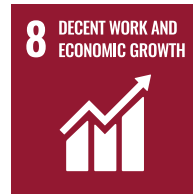


Water

Nitrogen emissions were decreased between 2013 and 2022 by

48%

(The figure applies to production at the Kymi pulp mill.)



Training

The hours that the personnel at the paper and pulp mills used on training sessions amounted to

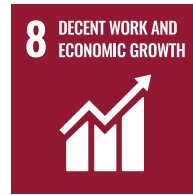
7,681



Waste

0 t

process waste was sent to a landfill from the paper mill. From the pulp mill the only waste fraction ending up in landfill was green liquor dregs.

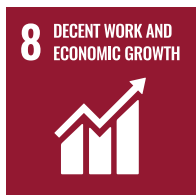


Community

In a practical work training or apprenticeship, there were

53 students and

7 thesis workers



Safety

Proactive safety work resulted in

1,802

safety and environmental observations and near misses recorded by pulp and paper mill employees and contractors. In addition, safety walks and discussions reached a total number of

1,577



Energy

In 2022, the percentage of energy from renewable fuels was

87%

The pulp production used black liquor as the main fuel.



Certified fibre

81%

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

100%

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



Supply chain

97%

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



Taxes

Integrate's tax impact approx.

EUR 31 million

Real estate tax EUR 0.5 million
Estimate of tax on salaries EUR 3.1 million
Estimate of corporate income tax EUR 27.8 million based on the number of employees*

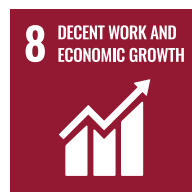
* share for all the municipalities approx. 30%. Each municipality receives a share of this depending on the ratios calculated based on business and forest operations in the municipality



Air

Between 2013 and 2022, sulphur dioxide emissions from the Kymi pulp mill were decreased by

93%



Employment

UPM Kymi directly employed

708

 employees and

120

 summer workers



The air emissions were below the permit limits, except for chlorine emissions from the scrubber of acidic bleaching steam.

The environmental permit limit was exceeded because the gas scrubber's washing efficiency is not sufficient at the current production level. The washing efficiency of the bleaching steam scrubber will be improved during the spring 2023 maintenance shutdown.

Compared to the previous year, the total tonnage of nitrogen oxides decreased by almost 30%. A clear decrease was also seen in the amount of particles, down by more than 54% from 2021 levels. The amount of gaseous odorous sulphur compounds clearly increased due to the increase in SO₂ emissions from Kymin Voima.

During the maintenance shutdown in 2021, a fourth field was installed in the

electrostatic precipitator and the rectifiers of all four fields were replaced for more efficient three-phase rectifiers. The automation and control systems of the electrostatic precipitators were modernised at the same time. Thanks to these investments, the particle concentration in the lime kiln was significantly reduced, and in 2022, the particle concentration in the lime kiln was also below the environmental permit limit.

It was also recorded that 99.4% of mild malodorous gases and 99.8% of strong malodorous gases were recovered and burnt.

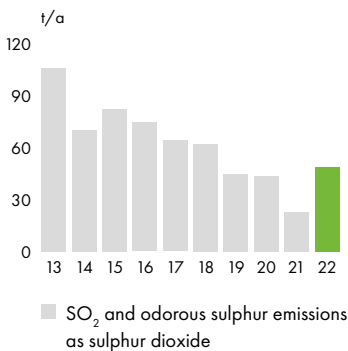
TRS emissions measured at the city's environmental services station in the centre of Kuusankoski were clearly lower than in the previous year. In 2022, levels above 5 µg/m³ were exceeded for only 0.04% of the annual hours, which means about 3.5 hours. The number of hours

per year exceeding 5 µg/m³ decreased significantly from the previous years due to improved collection of dilute odorous gases from the birch line during the 2021 maintenance shutdown. In 2022, odour emissions was mainly caused by maintenance shutdowns due to equipment failure and resulting process disruptions.

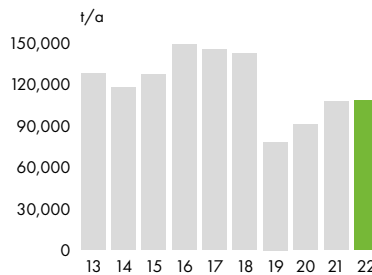
In 2022, carbon dioxide emissions increased from the previous year, as fuel oil was used fuel to the lime kiln. This was due to the impact of global political factors on the availability of natural gas. As of 2019, CO₂ consumed by the PCC plant is now deducted from our CO₂ emission figures in accordance with the EU Emission Trading Scheme.

The air emissions represented the best available technology in relation to the emission levels set by the BAT conclusions on the paper and pulp industry.

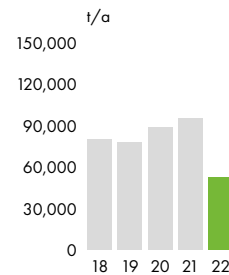
Gaseous sulphur emissions, SO₂ *



Fossil carbon dioxide, CO₂ *
(fossil emissions from own energy production, scope 1)
CO₂ sequestered in PCC reduced in 2019–2022

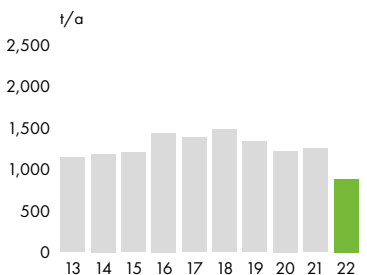


Fossil carbon dioxide, CO₂ *
(fossil emissions from purchased energy, scope 2)

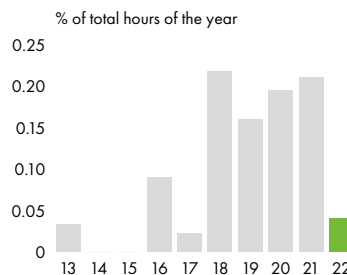


* Includes Kymin Voima Oy's emissions with regard to the energy consumed by Kymi.

Nitrogen oxides, NO₂ *



Percentage of TRS hourly average concentrations above 5 µg/m³ per year



Waste



The total amount of waste in 2022 was 20,700 tonnes, of which 6,666 tonnes were disposed of as dry material at the Lamminmäki landfill. No process waste from the paper mill was taken to landfill, only green liquor dregs was disposed of at Lamminmäki.

Green liquor dregs from pulp production is a challenging waste fraction to recycle. We are working hard to find a sustainable use for it, but as there were no ongoing beneficial uses, all the green liquor dregs generated by the mill had to be dumped in landfills.

A new joint project between UPM's Finnish pulp mills and an external operator is exploring the processing of green liquor dregs into building products. The first test run was planned for spring 2022, but was postponed by a year due to uncertainty about the availability of sufficient natural gas due to global political uncertainties.

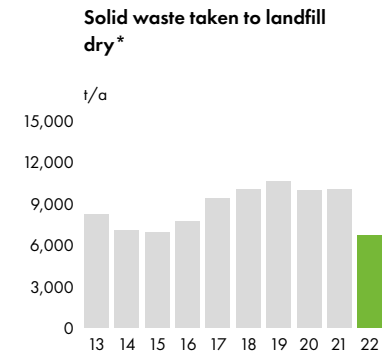
Around 4,500 tonnes of ash have been delivered for reuse in 2022. As before, ash created during bioenergy production was delivered for granulation, after

which it was applied to forests owned by UPM. The idea is to recycle the nutrients from the wood that is brought to the mill back into the forest. Other beneficial uses in 2022 included the binding of green liquor dregs in the Lamminmäki landfill structures and the closure structures of the Lamminmäki landfill. At the end of 2022, 29 tonnes of ash were in temporary storage.

In 2022, 1,755 tonnes of bark waste was delivered to be reused as raw material for culture medium raw material.

In Kymi, separate collection of plastic and packaging glass began during the past year. Packaging glass is collected in all three personnel canteens at the integrated mill and in social premises of recovery line at the pulp mill.

Plastic collection containers were purchased for the distribution warehouse and for the incoming mail terminals in the various departments at the pulp mill, which receive clear and coloured film plastic from the packaging of incoming shipments. At the end of the year, a plastic baler was purchased for the



* Includes Kymin Voima Oy's ash corresponding to the energy used by Kymi.

drying machine, where the large sack wrappings of pulp balewire balls, which previously ended up as energy waste, are now compressed into bales. Baling improves the efficiency of the processing and reuse of packaging plastics. The plastic waste collected from the mill is taken to a recycling plant, where it is processed to produce recycled plastic pellets, mainly for the domestic plastics industry.



The bulky plastic wrappings that are supplied as raw material for renewable plastics are compressed into a smaller shape in a baler, reducing the environmental impact of transporting plastic waste to a recycling plant.

Water



Wastewater was treated at the biological treatment plant throughout the year, although, during the strike, the plant was operating at its minimum capacity, with only about a quarter of the normal amount of wastewater flowing into the plant. After the strike, the different sections of the integrated mill site were started up in phases to allow the long dormant microbial population in the plant to adapt to the increased load. The wastewater treatment plant started running smoothly almost as soon as the mill was started up and continued to operate well and efficiently for the rest of the year. After the start-up, the loads of solids and nutrients discharged into the river were at a very moderate level.

The plant's operational efficiency is illustrated by a 98% reduction in the biological oxygen demand and a 78% reduction in the chemical oxygen demand. Solids were reduced by 91%.

In 2022, the total water consumption at Kymi was around 69 million m³. The total amount of water used was lower than

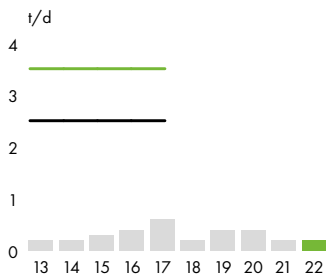
in previous years due to the production interruption early in the year.

The amount of waste water per tonne of output from the paper mill was at the target level for most of the year. Solids losses increased slightly from the previous year. One exceptional emission occurrence happened at the paper mill in September, when about 60 m³ of diluted washing water from a hot water tank was released into the Kymijoki River through a stormwater pipe.

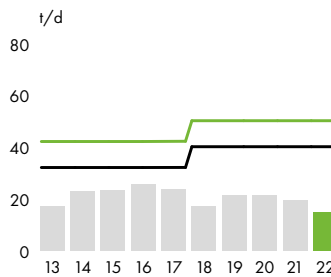
The volume of the pulp mill's specific consumption wastewater was at the previous year's level, but the specific emission of solids increased slightly from the previous year due to the abnormal situation at the wastewater treatment plant caused by the strike.

The water consumption and water emissions of the pulp and paper mill represented the best available technology in relation to the emission levels set by the BAT conclusions on the paper and pulp industry.

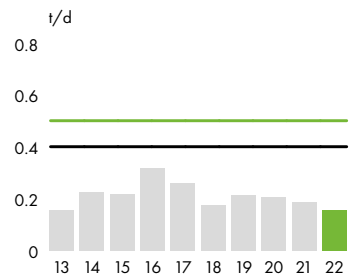
Biological oxygen demand, BOD



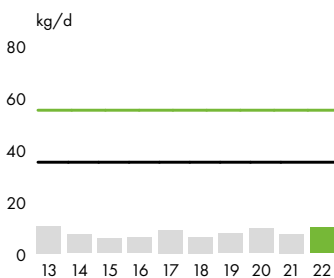
Chemical oxygen demand, COD_{Cr}



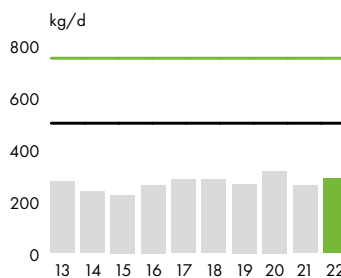
Adsorbable organic halogen compounds, AOX



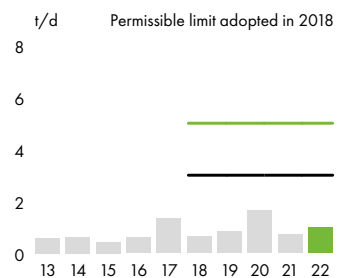
Phosphorus, P



Nitrogen, N



Total suspended solids



— Permit limit, monthly mean value
 — Permit limit, annual mean value

Management of crises and exceptional situations

The following types of events are specified under the management of crises and exceptional situations and communications at the mill properties and sites of Kymi:

- Serious accidents and near miss situations (major fires, explosions, chemical accidents etc.)
- Environmental damage
- Serious work injuries (including accidents on the way to or from work) and traffic accidents on the mill site
- Serious interruptions in production
- Other exceptional situations such as sabotage, demonstrations, work health and safety risks, pandemics, risks that could harm UPM's reputation, cyber threats and network destruction, and threatening situations not within Kymi, e.g., at other industrial plants etc.

Rescue operations are always led by the rescue authorities. The operational management of emergencies is the responsibility of the production organisation. Operational management means, for example, a controlled shutdown of production and other measures to bring the exceptional situation under control. Investigation of the incident and the flow of information happens in accordance with the organisation's chain of command and agreed roles. The members of the crisis communication group come from the mill's management or are separately agreed upon on case-by-case basis.



The mill's fire brigade checks the hydrants regularly.

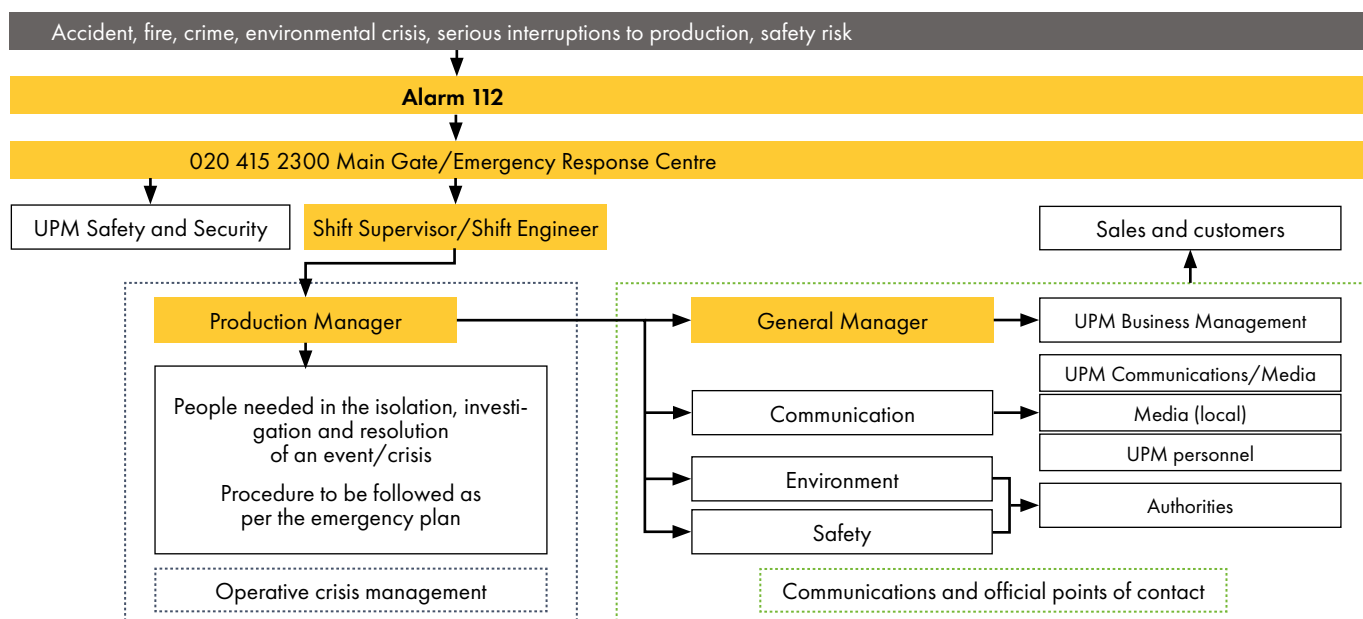
Exceptional situations concerning Kymi Voima Oy and projects at the Kymi mill site are handled in accordance with Kymi's guidelines and organisational actions. External companies operating on the mill site will follow their own guidelines. However, all emergencies will be reported as per the Kymi mill emergency policy.

The Kymi mill fire brigade primarily takes care of fire and rescue operations at the mill site and as a contract fire brigade of the Kymenlaakso Rescue Department. In order to maintain its operational readiness, the mill's fire brigade trained

regularly on a weekly basis and last year acquired, among other things, a thermal camera and a new rescue command vehicle.

The exceptional situation caused by the Covid pandemic continued for almost the whole year. The paper and pulp mills followed separate emergency procedures covering both their own personnel and contractors and visitors. The coronavirus steering groups set up for the mill met regularly. UPM supported the prevention measures against coronavirus by distributing Covid-19 home tests and face masks to its employees.

The crises management chain of command – communications and flow of information at UPM Kymi



Social responsibility

Through continuous improvement, proactive safety work and effective risk management, we aim to prevent accidents. We are committed to safety and our permanent goal is zero accidents. Occupational, process and environmental safety is fully embedded in our daily activities and is not considered secondary to any other interest. Our employees, as well as business partners and their employees, are required to adopt safe work practices and to comply with the rules and standards we have established.

In 2022, there were no lost time accidents at the paper mill. At the end of the year, it had been seven years since the last accident. There was one lost time accident involving an external operator at the pulp mill. UPM also monitors accident trends using the TRIF calculation, which does not only take accidents resulting in absence into account but also those requiring medical treatment or temporary work. At the paper mill, the TRIF was 5.2, including in-house personnel and external operators. The corresponding figure for the pulp mill was 6.7.

We organise safety training for our personnel on a regular basis. As the coronavirus situation still prevailed, most of the training took place online. There was on-site training sessions on subjects such as lift rescue, emergency first aid, radiation safety and food safety. Five evacuation drills were organised at the paper mill, involving contractors and visitors in addition to the mill's own personnel.

Three people at the paper mill were again awarded with the Best Safety Ambassador honour by UPM Communication Papers. This was the third time that honourable mentions were awarded at Kymi. The certificate is a sign of exceptionally meritorious safety-related work and initiatives that enhances safety for colleagues and the paper mill as a whole.

Well-being and health at work

UPM's well-being support services for its employees were expanded with a new online service offering remote physical activity and a well-being app. As in previous years, the employees' well-being was also supported through the ePass, the balance of which can be used for various sports, cultural and well-being services. In 2022, this benefit was utilised by 85% of the employees at the Kymi pulp mill and 84% at the paper mill.

The health of Kymi's employees was ensured by implementing a wide range of health checks, including regular, age-specific checks and statutory checks for people performing tasks that may cause exposure.

Encouraging learning

Our long-term goal at UPM is to ensure optimal performance and continuous professional development. At Kymi, skill development has been prioritised among pulp and paper mill production workers and is promoted through shift based training plans.

A coaching programme was implemented at the pulp mill to strengthen the atmosphere of trust and cross-departmental cooperation, as well as to improve day-to-day workflow and working practices. The programme was implemented in three half-day sessions. 247 hours were spent on coaching. The total number of personnel training hours in 2022 was 2,673 at the pulp mill and 5,008 at the paper mill.

Our apprenticeship programmes ensure that our future employees have the skills they need. We had a total of 49 students in our training programmes, mainly in production and maintenance, and four other trainees. More than 30 students were selected for the new apprenticeship programmes starting in January and March 2023 at the Kymi paper and pulp mill.

Evaluations to support operational development

We are regularly assessed by external independent experts. The external audits of the ISO 14001 environmental

management system, ISO 9001 quality management system, ISO 22000 food safety management system, ISO 45001 occupational health and safety management system and ISO 50001 energy management system carried out at the pulp and paper mill in 2022 did not identify any serious nonconformities. Corrective measures and schedules for implementing them have been set for the minor non-conformities.

The paper mill was certified with the ISO 22000 food safety management system at the end of 2022.

The so-called Multisite assessments between UPM mills are carried out according to a separate plan. Internal assessments apply to all certified systems. The aim is to ensure that practices are as consistent as possible across mills. The extensive expertise of auditors from other UPM units and divisions brings new insights to operational development.

Stakeholder engagement

Our aim is to raise awareness of jobs in the sector and encourage young people to enter the forest industry. The coronavirus pandemic affected our cooperation with different stakeholders nearly throughout the whole year, which led, for example, to a group of international students learning about UPM and Kymi's activities online under the headline, "Sustainable Solutions for the Climate".

In September, about 170 pupils in the sixth grade from three different schools in Kouvolaa took part in a forest trip organised in cooperation with the Finnish Forest Association in Valkeala. The "Economic forest – development and



During the evacuation drills, the paper mill employees, contractors and visitors moved to the nearest assembly point.



sustainable use" (Talousmetsä – kehitys ja kestävä käyttö) tour explored the forest, its growth, game management and wood based products. In addition, every pupil got a chance to plant a sapling for a future forest and eat a picnic lunch at the campfire.

In 2022, the forest industry of Kymenlaakso and Kymi celebrated their 150th anniversary. In June, UPM participated in a seminar organised by the Kymenlaakso Chamber of Commerce in Kuusankoski to celebrate the anniversary. We organised a personnel party for our employees in August and a stakeholder event for our partners in November. At the end of our centenary year, a history book "Kymi 150 years in the stream of development" (Kymi 150 vuotta kehityksen virrassa) was published and distributed to our employees, stakeholders and the city's libraries.

Value creation generates tax revenue

The tax revenues generated by UPM's operations have a significant social impact at both national and local level. In 2022, UPM's corporate income taxes paid and property taxes were approximately 349 million euros in total (306 million euros in 2021).

At the local level, the municipal share of corporation tax and property taxes paid help support the economy. In addition, the municipal taxes paid by

workers on their wages have a significant regional impact. The purchasing power of UPM's employees and sub-contractors also develops and maintains the vitality of the sub-regional communities. In 2022, the local tax impact of the Kymi integrated mill was around 31 million euros.

We use nearly four million cubic metres of wood in our mill every year, most of which is sourced locally. This brings income not only to forest owners but also to forest professionals and operators in the logistics chain.

UPM is the fourth largest employer in Kouvola. In 2022, the Kymi mill and other UPM operations in the city employed

around 850 people. A total of 708 people worked in the Kymi integrated mill, and we also hired 120 summer workers.

Responsible sourcing

UPM is committed to responsible procurement practices throughout the procurement chain. We require all suppliers to comply with the UPM Supplier Code and Third Party Code. The 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 2022, 97% of the value of raw material purchases in Kymi came from such suppliers.



The external audit looked at the changes made at the drying machine in the pulp mill to improve the cleanliness and orderliness of the work areas.

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.

		2020	2021	2022
Production capacity	Coated and uncoated fine paper	705,000 t	715,000 t	715,000 t
	Pulp	870,000 t	870,000 t	870,000 t
Raw materials	Timber Purchased pulp Chemicals	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Energy	Biomass-based fuels	89%	87%	87%
	Fossil fuels	11%	13%	13%
	Purchased energy ¹⁾			
Emissions to air	Sulphur, SO ₂	43.5 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)	22.9 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)	48.6 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)
	Nitrogen oxides	1,215 t	1,249 t	878 t
	Carbon dioxide, CO ₂ (fossil emissions from own energy production, scope 1)	90,566 t	107,043 t	108,075 t
	Carbon dioxide, CO ₂ (fossil emissions from purchased energy, scope 2)	88,410 t	94,905 t	52,147 t
	Particles	215 t	382 t	176 t
Water intake	Process and cooling water	91,767,230 m ³	85,197,993 m ³	68,789,718 m ³
Discharges to water	Cooling water	53,547,537 m ³	47,910,108 m ³	37,875,566 m ³
	Effluent	38,219,414 m ³	37,237,443 m ³	30,914,152 m ³
	COD _{Cr}	7,782 t	6,963 t	5,420 t
	BOD ₇	148 t	85 t	97 t
	AOX	75.4 t	67.4 t	52.9 t
	Phosphorus	3.43 t	2.71 t	3.61 t
	Nitrogen	116 t	94.7 t	105.3 t
Side products	Calcium dust	–	3,559 t	2,633 t
	Sodium bisulphite	–	2,350 t	337 t
	Total	–	5,909 t	2,970 t
Waste²⁾	Landfill			
	– green liquor dregs	9,938 t	9,972 t	6,666 t
	– lime sludge	–	–	–
	– mixed waste	–	–	–
	– process waste	–	–	–
	– building waste	1 t	3 t	–
	Reused waste			
	– ash	6,132 t	4,910 t	4,533 t
	– green liquor dregs	–	121 t	–
	– sludge	185 t	–	548 t
	– lime, lime sludge	123 t	129 t	204 t
	– bark and wood waste	3,099 t	3,261 t	2,100 t
	– cores and wrapping	3,188 t	5,303 t	3,996 t
	– waste paper and cardboard	67 t	118 t	151 t
	– metal	263 t	274 t	341 t
	– combustible waste	418 t	–	–
	– construction waste	1,356 t	1,447 t	825 t
	– biowaste	18 t	19 t	15 t
	– soil	–	–	939 t
– other waste	275 t	1,130 t	203 t	
Temporarily stored waste intended for reuse				
– ash	–	–	29 t	
Hazardous waste		161 t	123 t	103 t
Land use	Total amount of land use	255 ha	255 ha	255 ha
	Area impermeable to water	110 ha	110 ha	110 ha
	Area directed towards nature conservation	145 ha	145 ha	145 ha

The figures include Kymin Voima Oy's waste and emissions with regard to the energy consumed by the Kymi site.

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

²⁾ Dry weight

The pulp mill's performance against targets in 2022

OBJECTIVES AND INDICATORS	ACHIEVED	COMMENTS
No permissible limits exceeded – classes 3–5	Partially	The lime kiln particle emissions decreased after the renewal of the electrostatic precipitator. Reduction in odour complaints. The chlorine content of the acidic bleaching steam exceeded the permit limit.
Solid waste to landfill < 12.5 kg of dry matter/tonne of pulp	Yes	Actual figure below target. Green liquor dregs remains high.
Water consumption < 37 m ³ /t of pulp	Yes	Optimisation of fibre line washing.
COD emissions < 9 kg/tonne of pulp	Yes	Optimisation of fibre line washing at the maximum production level and good, steady operation of the wastewater plant.
AOX emissions < 0.10 kg/tonne of pulp	Yes	Optimisation of fibre line washing and chlorine dioxide doses at the maximum production level and effective, steady operation of the wastewater plant.
Solids to river < 1.0 t/d	Yes	Maintaining steady operation and proceeding with scheduled maintenance work at the wastewater treatment plant.
CO₂ emissions < 50 kg of CO ₂ /tonne of pulp	No	The fuel of the lime kiln was converted from natural gas into fuel oil.
SO₂ + TRS emissions < 0.1 kg of sulphur/tonne of pulp	Yes	Minimising unplanned shutdowns.
NO_x emissions < 1.40 kg/tonne of pulp	Yes	Minimising unplanned shutdowns. NO _x emissions from the lime kiln were significantly reduced by the fuel change.
Lime kiln particles – Goal: < 0.05 kg / tonne of pulp	Yes	A fourth field was installed in the electrostatic precipitator during the 2021 shutdown.

The paper mill's performance against targets in 2022

OBJECTIVES AND INDICATORS	ACHIEVED	COMMENTS
No abnormal emissions – classes 3–5	No	One exceptional emission, an acidic washing fluid, entered the stormwater pipe.
Waste to landfill 0 t	Yes	No process waste to landfill.
Reducing water consumption at the paper mill < 10 m ³ /tonne of paper	No	The target was reached in four months but the average for the whole year was slightly above the target.
Solids loss at the paper mill < 10 kg/tonne of paper	No	Not achieved.
Number of environmental observations 60 observations/year	No	Despite a challenging year, 56 environmental observations were recorded.

Pulp mill targets for 2023

OBJECTIVES AND INDICATORS	SCHEDULE	RESPONSIBILITIES BY DEPARTMENT
No permissible limits exceeded – classes 3–5	2023	Ensuring the operation of the bleach spray washer. Stable, good operation of the wastewater plant.
Solid waste to landfill < 12.5 kg of dry matter/tonne of pulp	2023	Actively participating in research seeking reuse applications for green liquor dregs. Finding a reuse application for green liquor dregs.
Water consumption < 37 m ³ /t of pulp	2023	Optimisation of fibre line washing at the maximum production level.
COD emissions < 9 kg/tonne of pulp	2023	Optimisation of fibre line washing at the maximum production level and good, steady operation of the wastewater plant.
AOX emissions < 0.10 kg/tonne of pulp	2023	Optimisation of fibre line washing and chlorine dioxide doses at the maximum production level and steady operation of the wastewater plant.
Solids to river < 1.0 t/d	2023	Maintaining steady operation and proceeding with scheduled maintenance work at the wastewater treatment plant.
CO₂ emissions < 50 kg of CO ₂ /tonne of pulp	2023	Optimisation of the drive and fuel selection of the blast furnace. Attaining a good paper mill operation rate.
SO₂ + TRS emissions < 0.1 kg of sulphur/tonne of pulp	2023	Minimising unplanned shutdowns.
NO_x emissions < 1.40 kg/tonne of pulp	2023	Minimising unplanned shutdowns.
Lime kiln particles < 0.05 kg/tonne of pulp	2023	Efficient operation of electrostatic precipitators.



For the summer, the Kymi integrated mill hired 120 summer workers.

Paper mill targets for 2023

OBJECTIVES AND INDICATORS	SCHEDULE	RESPONSIBILITIES BY DEPARTMENT
No abnormal emissions – classes 3–5	2023	Continuous improvement of environmental awareness and risk identification.
Reducing water consumption at the paper mill < 10 m ³ /tonne of paper	2023	Improving paper machine runnability.
Solids loss at the paper mill < 10 kg/tonne of paper	2023	Improving paper machine runnability.
Number of environmental observations 60 observations/year	2023	Improving environmental awareness.



Giant hogweed has been regulated as a harmful alien species throughout the EU. The plant must not be released into the environment and the landowner must prevent its spread. There are a few local giant hogweed plants at the Kymi mill site, which are controlled every year by, for example, removing the overgrown inflorescences and digging up young plants with roots from the soil. Giant hogweed spreads very easily from rhizomes left in the soil, and the seeds from the flowers remain viable in the soil for many years.



Revalidation statement

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

On the basis of this examination, the environmental verifier has herewith confirmed on 2023-04-05 that the environmental management system, the Finnish UPM Kymi Environmental and Societal Responsibility 2022 statement and the information concerning UPM Kymi in the Finnish Updated 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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