

UPM Kymi

ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY 2019



UPM Kymi

UPM Kymi, located in Kouvola's Kuusankoski district, is a mill integrate that produces paper, pulp 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 uncoated and coated fine paper as well as bleached birch and softwood pulp. 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. Birch, pine and spruce are used as raw materials.

In 2019, the total number of employees at UPM Kymi, including paper and pulp mill personnel as well as global functions personnel, was 747.

UPM has had a significant impact on the birth and development of the local community in Kouvola for almost 150 years. We still have a significant impact on the area as a taxpayer as well 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 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 2019 is a supplement to the Corporate Environmental and Societal Responsibility Statement of UPM's pulp and paper mills (available at www.upm.com) and provides mill-specific environmental and societal performance data and trends for the year 2019. The annually updated mill supplements and the UPM Corporate Environmental and Societal Responsibility Statement together form the joint EMAS Statement of UPM Corporation. The next Updated UPM Corporate Environmental Statement and also this supplement will be published in 2021.

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

Personnel • Kymi integrate	747
Paper mill •	710,000 t
Production capacity	
Products	Coated and uncoated fine papers: UPM Finesse, UPM Fine, UPM PrePersonal, UPM Poste, UPM Office, New Future, Kym Ultra, KymLux, UPM Jetlabel, UPM LabelCoat prime, UPM Vellum
Pulp mill •	
Production capacity	870,000 t/a pulp
Products	Birch pulp UPM Betula and pine pulp UPM Conifer
Bioenergy	Thermal energy and electricity
Residues	Tall oil and turpentine
Certificates	EMAS – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System ISO 9001 – Quality Management System ETJ+ – Energy Efficiency System OHSAS 18001 – Occupational Health and Safety System PEFC™ - Programme for the Endorsement of Forest Certification FSC® - Forest Stewardship Council® All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility) ISO 22000 – Food Safety Management System
Environmental labels	EU Ecolabel UPM pulp products have the approval 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 2019

In 2019, the pulp mill enjoyed a good year with regards to the market situation and achieved a new annual production record. However, the market situation for the paper mill was weaker than the year before. The volume of pulp sold to third parties increased in 2019.

Obligations related to environmental protection were covered systematically in compliance with the environmental permit. The particle emissions of the lime kiln exceeded the limit set in the permit, but all other mill emissions complied with the permit limits.

We were able to reduce our environmental load in many respects. For example, our recovery boiler NO_x emissions were significantly reduced thanks to the changes to the recovery boiler combustion air distribution made during the spring 2019 shutdown.

The integrated mill site's environmental objectives included maintaining compliance with the Clean Run programme launched in 2011, reducing abnormal emissions, ensuring efficient flow of information and use of the Clean Run programme, increasing environmental awareness among employees, decreasing water consumption, solid losses and odour emissions, increasing the reuse of process waste and reducing the amount of solid waste sent to landfill sites.

The Clean Run programme was part of the Kymi mill site's normal operations in 2019. All abnormal emissions were recorded with the OneSafety tool and their underlying causes were studied. An environmental review was arranged once a week during the pulp and paper mill's morning meetings to review the environmental issues/events from the previous week in more detail.

Twelve pieces of stakeholder feedback were received in 2019. Nine of them concerned odour emissions that mainly occurred during shutdowns. In addition, we received three pieces of feedback regarding dust emissions from the lime kiln.

In 2019, the Kymi site also continued the waste re-use development project in cooperation with external partners. The objective of the project is to continue to find new ways of re-using process waste and to use them to improve the waste re-use rate.


Environmental investments in 2019 included adjustments made to the final clarifiers,

in order to ensure the wastewater treatment plant remained in operation, and new air compressors. A new raw soap removal tank was built to improve the raw soap removal from the pine line, which further ensured the continued operation of the wastewater treatment plant. To reduce air emissions, air distribution adjustments were made to the recovery boiler.

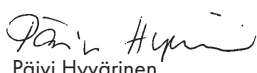
The paper mill's preparedness for abnormal emissions was improved by new well sealant mats that prevent chemicals from entering the rainwater or effluent sewers in the event of an accident.



The paper mill's Safety and Environmental Manager Anna Laksio (left) and the pulp mill's Environmental Manager Päivi Hyvärinen.


Jyri Kylmä,
General Manager,
Kymi pulp mill


Matti Laaksonen,
General Manager,
Kymi paper mill


Päivi Hyvärinen,
Environmental Manager,
Kymi pulp mill


Anna Laksio,
Safety and Environmental Manager,
Kymi paper mill

Responsibility figures 2019

Taxes

Kymi's local tax impact approx.



22 Meur

Real estate taxes EUR 0.8 million; estimated tax on salaries EUR 6.8 million; estimated corporate income tax EUR 13.9 million based on the number of employees*

* Approximately 30% of this goes to municipalities, which is split between each municipality according to their share of business activities and forests operations

Consumption impact*

Kymi's consumption impact in region approx.

39 Meur

In Finland approx. EUR 71 million.

* Private consumption of commodities generated through internal and indirect employees' net wages.

Community

The total number of schoolchildren and students visiting the Kymi mills and UPM's events was approx.

8,000



UPM supports the education and employment of young people through active collaboration with educational institutions, industry organisations and the city.

Employment

The total number of employees at UPM Kymi, including paper and pulp mill personnel as well as global functions personnel, was



747

Indirect employment effect in region approx. 730 people.

Safety

The number of accidents resulting in sick leave for UPM personnel at the pulp and paper mill was



0

Over the past 10 years, the number of accidents resulting in sick leave for UPM personnel at the Kymi mill has decreased by 100%.

Wellbeing

Wellbeing programs



100%

For the paper mill and pulp mill have been prepared occupational wellbeing plans based on the results of the latest staff survey.

Water



COD emissions to water between 2010 and 2019 decreased by

54%

The figure applies to production at the Kymi pulp mill.

Supply chain



98%

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

Water



Phosphorus emissions to water between 2010 and 2019 decreased by

58%

The figure applies to production at the Kymi pulp mill.

Air



Airborne emissions have been reduced in 2010–2019; sulphur dioxide, SO₂

86%

The figure applies to production at the Kymi pulp mill.

Energy



Energy produced using renewable fuels over

89%

Pulp production used black liquor as main fuel.

Certified fibre



77%

The proportion of PEFC and/or FSC certified fibre in paper production. UPM's goal is to use only certified fibre by 2030.

Air and noise



Emissions into the atmosphere complied with the new permit limits, with the exception of lime kiln particle emissions.

The lime kiln particle emissions exceeded the annual permit limit. The high level of particle emissions was caused by structural changes made to the feed end of the lime kiln in the autumn of 2017 to increase efficiency. These changes resulted in a significant increase in the particle emissions from the lime kiln. During the maintenance shutdown scheduled for May 2019, structural changes were again made to the feed end of the lime kiln to resolve the dust issue. The changes made to the feed end of the lime kiln reduced dust emissions but not to the extent expected. Further examinations have revealed that some of the lime kiln electric filter fields do not work optimally. We are working together with electric filter suppliers to find a solution that would improve

the separating capacity and usability of electric filters.

Total NO_x emissions, reported in tonnes, decreased from the previous year. This was a result of the changes made to the recovery boiler's combustion air distribution, which resulted in reduced NO_x emissions coming from the recovery boiler, as well as a decrease in paper production. Gaseous sulphur emissions were very low.

99.2% of faintly malodorous gases and 99.8% of strongly malodorous gases were recovered and burnt.

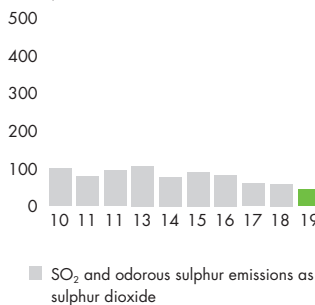
The increase in production volume has placed more strain on the recovery of malodorous gases and led to the temporary occurrence of unpleasant odours during process disturbances. However, TRS emissions at the Kouvola City Envi-

ronmental Services measuring station in central Kuusankoski remained low. The average hourly TRS content only exceeded 5 µg/m³ for 0.16% of the total number of hours within 2019, which equates to a total of approximately 14 hours.

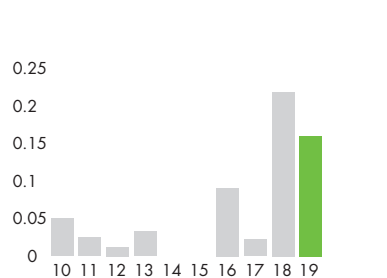
In 2019, our CO₂ emissions decreased compared to the previous year. This is due to the fact that as of 2019, CO₂ consumed by the PCC plant is now deducted from our CO₂ emission figures in accordance with the EU Emission Trading Scheme.

On 3 August 2019, the bull chain conveyor of the lime kiln's electric filter stopped due to a broken break-pin, which consequently shut off the electric filter's power supply. Repairing the disruption took 12 hours. As a result, the combustion gases emitted by the lime kiln were carried into the chimney unfiltered.

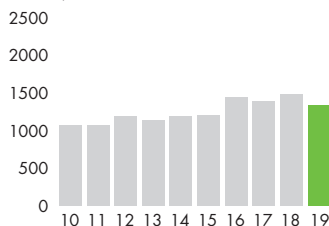
Gaseous sulphur emissions SO₂ (*)
t/a



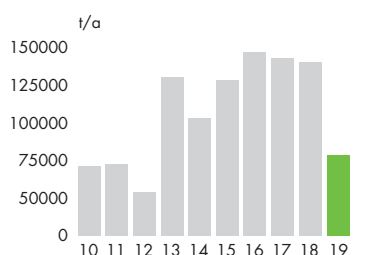
Percentual share of hourly average TRS values exceeding 5µg/m³ each year



Nitrogen oxides, NO₂ (*)
t/a



Fossil carbon dioxide (*)
PCC-related CO₂ carbon dioxides decreased until 2010-2012 and 2019
t/a



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

Waste



The total amount of waste produced in 2019 was 24,400 tonnes, of which 10,550 tonnes was taken to a landfill (Lamminmäki) for final disposal as dry matter. Of this amount, 10,533 tonnes was green liquor dregs. The amount of waste sent to landfill sites increased compared to the previous year, due to the need to put more green liquor dregs into landfill, as there were no re-use applications. Green liquor dregs produced in the recovery process remained the most significant waste component taken to the Lamminmäki landfill site, and a viable solution for its continuous recycling is yet to be found.

A total of 19,300 tonnes of wastewater sludge was combusted in the Kymin Voima Oy boiler in 2019.

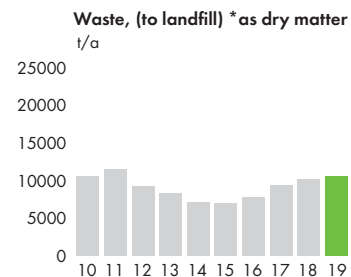
Around 1,900 tonnes of ash was re-used in 2019. As before, ash created during bioenergy production was delivered for granulation, after which it was ap-

plied 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 re-use applications in 2019 included binding green liquor dregs used in structures at the Lamminmäki landfill and field structures at the Hyötypaperi site. At the end of 2019, 1,948 tonnes of ash was in temporary storage.

Approximately 2,700 tonnes of bark and wood waste was delivered to be re-used as culture medium raw material in 2019.

UPM's Zero Solid Waste project, which began in 2015, also continued in 2019. The project's goal is to find re-use applications for all of the mill's process waste types by 2030, including green liquor dregs.

In 2019, training was provided at the paper mill, particularly in relation to proper waste sorting. No waste was taken from the paper mill to landfill in 2019.



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



The unloading bay for green liquor dregs at the causticizing plant. Green liquor dregs taken to landfill are loaded onto a flatbed lorry. Photo: Jussi Heinonen.

Water



The performance of the biological treatment plant was good throughout the year. In 2019, our COD and AOX emissions exceeded the figures of the year before due to the increased production of the pulp mill.

The monthly permit limits set in the new environmental permit were not exceeded at any point. The reduction levels indicating the efficiency of the treatment plant were 99% for biological oxygen demand (BOD) and 81% for chemical oxygen demand (COD). The solids reduction rate was 96%. The effluent load to the river remained below all environmental permit limits throughout the year.

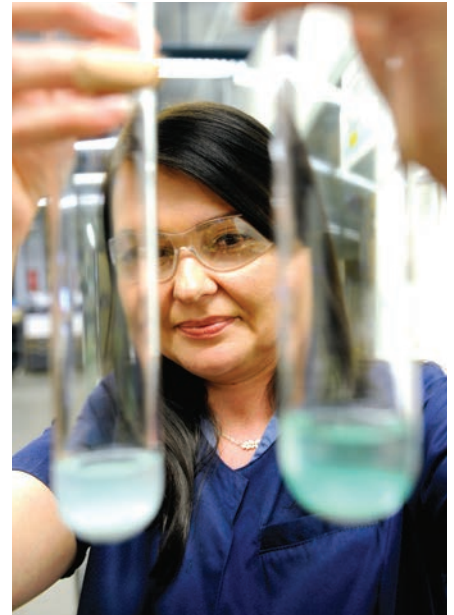
In 2019, the Kymi mill site used a total of 92 million m³. Water consumption at the integrated mill site increased by approximately 2.5% year-on-year due to the sig-

nificant increase in the pulp mill's production volume compared to the previous year.

The effluent volume and solids loss at the paper mill increased because there were more restarts and shutdowns than in 2018. The effluent volume and solids loss at the pulp mill, per one tonne of pulp produced, decreased year-on-year thanks to more efficient fibre line washing.

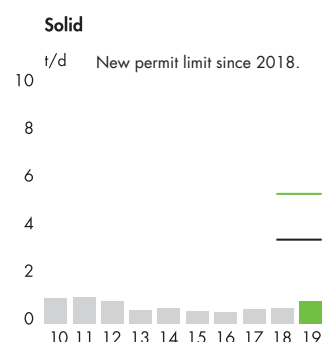
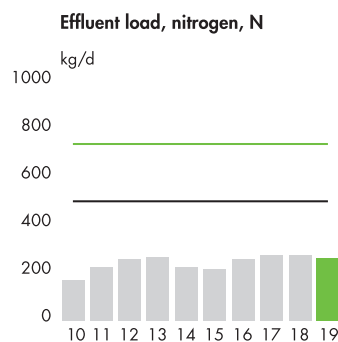
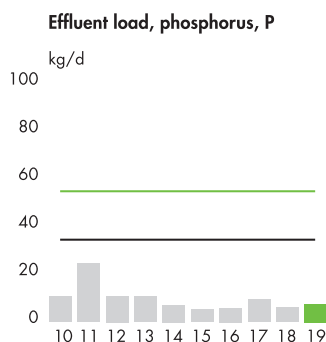
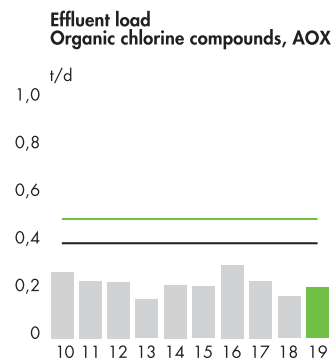
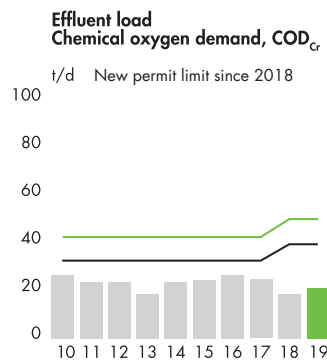
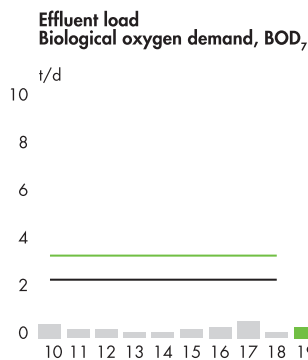
The water consumption and water emissions of the pulp and paper mill represented the best usable technology possible in relation to the emission levels set by the BAT conclusions on the paper and pulp industry.

In summary, the effluent load of the pulp and paper mill remained at or below the BAT reference limit throughout the year 2019.



Wastewater monitoring is conducted regularly at the Kymi process laboratory. Photo: Johannes Wiehn.

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





A virtual emergency drill at the integrated mill site was held in June.

Management of crises and exceptional situations

The following types of events are included within the management of crises and exceptional situations and communications at the Kymi mill property and surrounding area:

- Serious accidents and near-miss situations (major fires, explosions, chemical accidents etc.)
- Environmental damages
- 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, 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.

Operational management includes the controlled shutdown of production and measures required to gain control of the exceptional situation, among other things. Event investigation and flow of information proceed in accordance with the organisation's chain of command and agreed roles. Our crisis communication group either consists of members of the mill's executive board or is formed separately on a case-by-case basis.

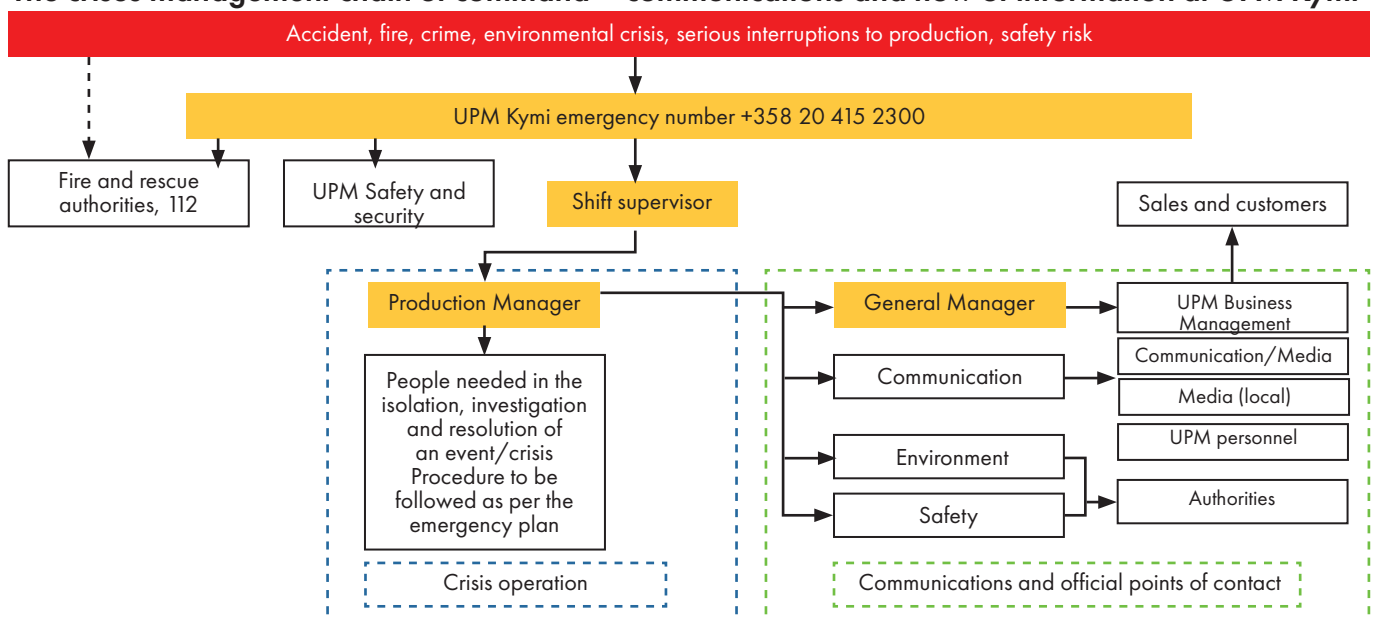
Exceptional situations concerning Kymi Voima Oy and projects being run at the Kymi mill site will be dealt with in accordance with the Kymi guidelines and organisational actions. External companies operating on the mill site will follow their own guidelines. However, all emergen-

cies will be reported to the Kymi alarm centre.

Emergency drills are conducted annually. In 2019, our most significant drills were the evacuation drills at the paper mill and the fire and rescue drill at the paper storage facility, which was organised in co-operation with the Kymenlaakso Rescue Department. In addition to the representatives from Kymi, members of UPM's safety board, as well as representatives from various authorities and other companies, participated in the virtual emergency drill at the integrated mill site.

No crises or exceptional situations occurred at Kymi in 2019.

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



Social responsibility

Well-functioning dialogue with stakeholders is key to our success. We are committed to promoting the vitality of the communities near our facilities through active collaboration and open dialogue with different stakeholders, as well as through different sponsorship projects and employee volunteering.

UPM is a significant operator in Kouvola. Last year, the Kymi mills and other UPM operations in the area employed nearly 900 people in total. UPM was the fourth-largest employer in the area.

With global operations personnel included, the total number of company personnel at the Kymi integrated mill site was 747. Over the summer, approximately 120 people were employed as holiday stand-ins. During the extensive maintenance shutdown at Kymi's integrated mill site in May, approximately 2,000 people employed by external companies were working in the mill area.

Taxes

Tax revenue generated by UPM's business operations is an essential part of our social impact. UPM pays corporate income taxes in the countries where we create added value and generate profit. Due to our corporate and operational structure, we mainly report and pay our corporate income taxes in the countries of

production and in the countries where innovations are being developed. In addition to the taxes we pay on income, our various production inputs and outputs are also subject to taxation.

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

The Kymi integrated mill site's tax contributions in Kouvola amounted to approximately EUR 22 million in 2019. The tax contributions consist of real estate taxes (EUR 0.8 million), municipal income tax paid on wages (EUR 6.8 million) and the estimated corporate income tax (EUR 13.9 million). In total, municipalities receive approximately 30% of corporate income taxes. This amount is split between municipalities according to each municipality's share of business activities and forests.

Consumption impact

The local effect on consumption created by the integrated mill site amounted to



approximately EUR 39 million in 2019. For Finland as a whole, the effect was approximately EUR 71 million. These figures reflect the consumption generated through internal and indirect employees' net wages.

Work safety and well-being

Work safety at the Kymi paper and pulp mill is at a good level: no lost time accidents occurred in 2019.



Kymi's Open Day took visitors on a mill tour and introduced them to the mill products. Photo: Ossi Nikki.



Children who participated in the one-day trips entitled "Lifecycle of a commercial forest" in Valkeala found planting trees the most enjoyable task on the trip. Photo: Ossi Nikki.

The staff were provided various kinds of training, including standard work safety training, which was provided in a classroom. Training was also given online. Several job-related safety and first aid competence training sessions were also organised. Staff were actively encouraged to report any safety issues and conduct frequent safety tours and hold frequent discussions. Use of the OneSafety tool was also encouraged.

Work health-care services are available to Kymi employees. Work health-care staff conduct regular safety tours across all departments.

Work well-being plans were drawn up based on the results of a personnel survey, and implementation of these plans was monitored throughout the year. Supervisors received training on management and supervisory duties.

The UPM Code of Conduct training was completed by 95% of employees at the pulp mill and 89% at the paper mill.

Responsible sourcing

UPM is committed to responsible sourcing practices throughout the entire supply chain. We require all suppliers to uphold the UPM Supplier and Third Party Code. UPM's target is to have 80% of all spend qualified against the UPM Supplier and Third Party Code by 2030. At Kymi, this figure was 98% last year.

Stakeholder engagement and volunteering

Our objective is to inform people about jobs in the forestry industry and particularly to encourage young people to study forestry and pursue careers in the field. Events aimed at pupils, students and young people in general reached approximately 8,000 people last year.

School pupils and students attended study trips to the paper and pulp mill. In turn, experts from UPM also visited schools as ambassadors of the "Forest of Opportunities" campaign to introduce the forestry industry to pupils in grades 7 to 9. In 2019, the student and pupil events consisted of the "KouAhead" event for ninth graders in Kouvola and forest trips titled "Lifecycle of a commercial forest", organised by UPM Forest for all sixth graders in the region.

UPM engages in various forms of collaboration with educational institutions, with recruitment and networking events being the most common. The events at the Kymenlaakso University of Applied Sciences (XAMK), as well as the recruitment and networking events in Kouvola, Kotka and Mikkeli drew the most significant amounts of attendees. We keep in touch with universities and vocational schools on a regular basis.

The largest one-day public event at Kymi was the Open Day, which was attended by approximately 2,500 people. Kymi was also part of an exhibition showcasing UPM Kouvola's operations. The exhibition drew almost 10,000 visitors and was open for one month.

UPM's Biofore Share and Care programme comprises three forms of support: sponsorships, donations and employee volunteering. The programme's four focus areas are: reading and learning, engagement with communities, responsible water use and boosting bioinnovations. In 2019, Kymi volunteered in the clean-up project of the Sompanen shore and supported the construction of a Mobo orienteering route in Kuusankoski. Kymi even organised the route's opening event with a local school.



In addition to Kymi employees, Voikkaa Primary School pupils and Kuusankoski Rotary Club members participated in the clean-up project of the Sompanen shore.

Environmental parameters 2019

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.

		2017	2018	2019
Production capacity	Coated and uncoated fine paper	730,000 t	730,000 t	710,000 t
	Pulp	760,000 t	870,000 t	870,000 t
Raw materials	Wood			
	Purchased pulp			
	Chemicals	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Energy	Biofuels	87 %	89 %	89 %
	Fossil fuels	13 %	11 %	11 %
	Purchased energy ¹⁾			
Emissions to air	Sulphur, SO ₂	64,0 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)	62,3 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)	44,5 t (SO ₂ and malodorous sulphur emissions as sulphur dioxide)
	Nitrogen oxides, NO _x	1,377 t	1,474 t	1,327 t
	Carbon dioxide, CO ₂ (fossil)	144,478 t	141,688 t	77,916 t
	Particulates	64,5 t	380 t	243 t
Water intake	Process and cooling water	86,465,220 m ³	90,015,476 m ³	92,284,161 m ³
Discharges to water	Cooling water	49,934,338 m ³	53,046,303 m ³	55,263,794 m ³
	Effluent	36,530,882 m ³	36,982,038 m ³	37,020,367 m ³
	COD _{Cr}	8,482 t	6,204 t	7,674 t
	BOD ₇	206 t	85,4 t	146 t
	AOX	94,0 t	63,4 t	78,7 t
	Phosphorus, P	3,30 t	2,27 t	2,74 t
	Nitrogen, N	103 t	104 t	97,4 t
Waste to landfill (as dry matter)	Green liquor dregs	²⁾	9,908 t	10,533 t
	Lime		-	-
	Mixed waste		9 t	11 t
	Process waste		98 t	-
	Construction waste		7 t	6 t
Recycled waste (as dry matter)	Ash		8,960 t	1,938 t
	Green liquor dregs		177 t	-
	Sludge		-	439 t
	Lime sludge		370 t	251 t
	Bark and wood waste		2,803 t	2,718 t
	Cores and wrapping		3,533 t	3,361 t
	Waste paper and cardboard		145 t	224 t
	Metal		596 t	607 t
	Combustible waste		491 t	495 t
	Concrete and brick waste		307 t	912 t
	Biowaste		19 t	21 t
	Other waste		1,169 t	782 t
	Temporarily stored waste intended for reuse	Ash (as dry matter)		0 t
Hazardous waste			91 t	178 t
Size of mill area		290 hectares	290 hectares	290 hectares
Including landfills maintained by Kymi				

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

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

²⁾ The method used for reporting waste data changed in 2018.

The pulp mill's performance against targets in 2019

OBJECTIVES AND INDICATORS	ACHIEVED	COMMENTS
Minimising abnormal emissions – Classes 3 to 5: 0 cases	No	Permit limit exceeded once: lime kiln particle emissions.
Solid waste to landfill <12.5 kg of dry matter/tonne of pulp	Yes	Actual figure below target. The amount of green liquor dregs is considerable.
Reducing water consumption at the pulp mill – Goal: <39 m ³ /tonne of pulp	Yes	Water consumption reduced by improvements in birch line washing.
COD emissions – Goal: <9 kg/tonne of pulp	Yes	Improvements in birch line washing.
AOX emissions – Goal: <0.10 kg/tonne of pulp	Yes	Improvements in birch line washing.
Solids to river – Goal: <1 tonne/day	Yes	Steady operation of the wastewater treatment plant.
Pulp mill CO₂ emissions – Goal: <50 kg of CO ₂ /tonne of pulp	Partially	The primary fuel of the lime kiln is natural gas, which increases CO ₂ emissions.
SO₂+TRS emissions – Goal: <0.1 kg of sulphur/tonne of pulp	Yes	Actual figure very low.
NO_x emissions – Goal: <1.55 kg/tonne of pulp	Yes	The recovery boiler's NO _x emissions became low after the adjustments made to the combustion air distribution.
Lime kiln particles – Goal: <0.05 kg/tonne of pulp	No	Annual permit limit exceeded.

The paper mill's performance against targets in 2019

OBJECTIVES AND INDICATORS	ACHIEVED	COMMENTS
No abnormal emissions – Classes 3 to 5	Yes	No abnormal emissions.
Waste to landfill 0 t	Yes	No waste to landfill. Waste-sorting training and crash courses were organised for the staff.
Reducing water consumption at the paper mill <10 m ³ /tonne of paper	No	Not achieved.
Solids loss at the paper mill <10 kg/tonne of paper	No	Not achieved.
Number of environmental observations: 50 pcs	Yes	The number of environmental observations was 66. Staff were encouraged to make environmental observations, which resulted in higher reporting figures.

The pulp mill's objectives for 2020

OBJECTIVES AND INDICATORS	SCHEDULE	RESPONSIBILITIES BY DEPARTMENT
No abnormal emissions – Classes 3 to 5	2020	Capacity analyses and vapour recovery optimisation. Reducing of lime kiln particle emissions. Reducing of odour and dust complaints. Maintaining steady operation of the wastewater treatment plant and implementation of scheduled maintenance work.
Solid waste to landfill <12.5 kg of dry matter/tonne of pulp	2020	Optimising the amount of green liquor dregs for budget production. Active participation in investigations targeting the re-use of green liquor dregs. Ensuring the re-use of pond bank sludge.
Water consumption <39 m ³ /tonne of pulp	2020	Optimising fibre line washing at the maximum production level.
COD emissions <9 kg/tonne of pulp	2020	Optimising fibre line washing at the maximum production level.
AOX emissions <0.10 kg/tonne of pulp	2020	Optimising fibre line washing and chlorine dioxide doses at maximum production level.
Solids to river <1.0 tonne/day	2020	Maintaining steady operation and proceeding with scheduled maintenance work at the wastewater treatment plant.
CO₂ emissions <50 kg of CO ₂ /tonne of pulp	2020	Optimising the operation of the lime kiln. Minimising unplanned shutdowns.
SO₂+TRS emissions <0.1 kg of sulphur/tonne of pulp	2020	Minimising unplanned shutdowns.
NO_x emissions <1.55 kg/tonne of pulp	2020	Optimising the operation of the lime kiln. Minimising unplanned shutdowns.
Lime kiln particles <0.05 kg/tonne of pulp	2020	Plan and implementation of reduction in lime kiln dust emissions. Improving the separating capacity of electric filters.



Optimising the operation of the lime kiln is one the pulp mill's objectives for 2020. Photo: Ossi Nikki.

The paper mill's objectives for 2020

OBJECTIVES AND INDICATORS	SCHEDULE	RESPONSIBILITIES BY DEPARTMENT
No abnormal emissions – Classes 3 to 5	2020	Continuously improving environmental awareness.
Reducing water consumption at the paper mill <10 m ³ /tonne of paper	2020	Improving line-specific monitoring.
Solids loss at the paper mill <10 kg/tonne of paper	2020	Improving line-specific monitoring.
Waste to landfill 0 t	2020	Communications and guidelines regarding sorting.
Number of environmental observations 50 observations/year	2020	Improving environmental awareness.



The paper mill's objectives for 2020 include further reductions of water consumption and solids loss. Photo: Ossi Nikki.



Revalidation statement

As an accredited environmental verifier (FI-V-0001), Inspecta Sertifointi Oy has examined the environmental management system and updated UPM Kymi Environmental and Societal Responsibility 2019 report as well as the information concerning UPM Kymi in the Updated UPM Corporate Environmental Statement 2019. On the basis of this examination, the environmental verifier has herewith confirmed on 2020-03-30 that the environmental management system, the updated UPM Kymi Environmental and Societal Responsibility report and the information concerning UPM Kymi in the Updated UPM Corporate Environmental Statement 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.**



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