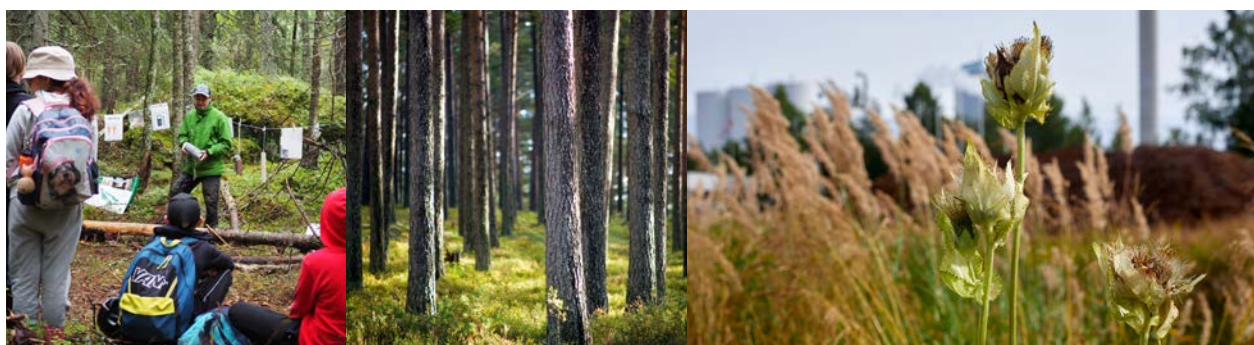




UPM Pietarsaari

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY 2023



UPM Pietarsaari

The UPM’s Pietarsaari mill complex consists of the pulp mill, the Alholma sawmill and the Northern regional office of UPM Forest. They are located in UPM’s industrial estate in Alholma, together with Billerud, Walki and Alholmens Kraft.

The mill site is a diversified bioforestry manufacturing hub, where wood from the surrounding area is processed into pulp, lumber, paper, recycled paper and energy. UPM Forest is responsible for the procurement of wood for the pulp mill and sawmill. The logs are sawn at the Alholma sawmill, and pulp is made from pulpwood, sawdust and wood chips. A part of the pulp is delivered to the Billerud paper mill for kraft paper manufacturing. The Walki factory processes some of the kraft paper to make different packaging materials. Bark and other wood residues are used by the Alholmens Kraft power plant to generate electricity, steam and district heating.

This EMAS report covers environmental matters pertaining to UPM’s Pietarsaari pulp mill and the Alholma sawmill. Social responsibility is addressed with regard to the entire mill complex.



	Pulp mill	Alholma sawmill
Production capacity	800,000 t	280,000 m ³
Personnel	261	79
Products	Softwood pulps: UPM Conifer UPM Conifer Thin Birch pulps: UPM Betula UPM Betula TCF Eucalyptus cellulose: UPM Euca	pine and spruce sawn timber, woodchips, sawdust and bark
Side products	Lime sludge calcium and green liquor dregs	
Residues	Tall oil and turpentine	
Bioenergy	Heat energy and electricity	
Certificates	EMAS certificates – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System ISO 50001 – Energy Management System ISO 9001 – Quality Management System ISO 22000 – Food Safety Management System ISO 45001 – Occupational Health and Safety System PEFC Programme for the Endorsement of Forest Certification FSC® wood origin monitoring system – Forest Stewardship Council®	
	All certificates can be found at the UPM’s Certificate Finder www.upm.com/responsibility	
Environmental labels	EU Ecolabel Blue Angel Nordic Ecolabel UPM pulp products have the approval for use in EU Ecolabel and Nordic Ecolabel paper.	



This report, UPM Pietarsaari Environmental and Social Responsibility 2023, is a supplement to the UPM Corporate Environmental and Social Responsibility Statement 2023 for UPM paper and pulp mills. It presents the mill’s environmental and social responsibility performance and key figures for 2023. Together, the annually-compiled mill supplements and the Corporate Environmental and Social Responsibility Report form UPM’s joint EMAS report. The Corporate Environmental and Social Responsibility Report is available at www.upm.fi. The next Updated UPM Corporate Environmental Statement, as well as this supplement, will be published in 2025.

We deliver renewable and responsible solutions and innovate 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 16,600 people worldwide and our annual sales are approximately EUR 10.5 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. www.upm.com



More about FSC certification: fsc.org



More about PEFC certification: pefc.org

Review of the year 2023



Pulp mill

In terms of production, the pulp mill was nearly on target for 2023. The mill switched to producing more softwood pulp than before. This contributed, among other things, to a slight increase in emission levels. However, pulp remained at a high quality level. A project to support the development of process safety was launched at the pulp mill.

Environmental protection obligations have been taken care of systematically and in accordance with the environmental permit. A key long-term goal for the pulp mill is to increase production without causing adverse environmental impacts. New production equipment, such as new washers for the birch line, has also allowed maintaining production with less environmental impact and reducing water consumption in the long term. Calculated as specific emissions, emissions into the sea and emissions into atmosphere were clearly in line with the BAT level (BAT ref. 2014). Long-term research to preserve the whitefish stock in the Pietarsaari area continued in cooperation with professional fishermen in the area.

The fossil carbon dioxide emissions at the Pietarsaari pulp mill are still among the lowest in Europe. 48 environmental observations related to preventative environmental safety were recorded at the pulp mill.

Work on the recovery of solid waste has continued actively in the UPM Group. UPM has set a target of no landfilling or incineration of solid process waste without energy recovery after 2030. The work to promote a circular economy continues, and the objective is to reintroduce sidestreams from operations into the material cycle.

Alholma sawmill

2023 was a good year for the Alholma sawmill from an environmental point

of view, but a challenging year from a production point of view. Production efficiency was at a reasonable level in both the sawmill and the grading line. During the year, production was limited as required and the production target was missed by about 10%. A two-week summer shutdown was held in July, when machinery was serviced and minor investment work was carried out. Quality challenges were encountered with the recyclable protective plastic, and in the autumn the plastic supplier was replaced and a higher quality plastic was introduced. The proportion of recyclable material in plastics is 75%. The oils used between the chains and the guides were switched to bio-based oils. In spring 2023, fuels for internal logistics were also switched to bio-based fuels, and rail transport to the port of Rauma was further increased, replacing the volumes transported by trucks. Energy efficiency at the Alholma sawmill remained at about the same level in 2023 compared to 2022. The sawmill did not receive any environmental observations or non-compliance reports from external stakeholders.

Safety as part of professionalism

Safety is an integral part of our everyday actions and expertise. We strive to

reduce and prevent accidents through continuous improvements, effective risk management and preventative safety work. In 2023, the employees at the pulp mill and the sawmill carried out 1,070 safety rounds and discussions and made 1,283 safety observations and incident reports. At the end of the year, a major incident drill was organised at the pulp mill in cooperation with the rescue authorities.

Local collaboration in many forms

We are committed to developing the vitality of the local community through active cooperation and open dialogue with different stakeholders, and by supporting projects through sponsorship.

In 2023, our sponsorship was mainly focused on supporting local sports and physical activities, as well as environmental awareness among children and young people. We also built a fitness stairway in Uusikaarlepyy with our partners.

The number of reports from environmental stakeholders during the year was low, only two. The reports were related to noise from the use of an emergency burner at the pulp mill.



Tomi Heikkinen
Tomi Heikkinen
Environmental Manager



Markus Alenius
Markus Alenius
Acting Pulp Mill Manager



Mika Åby
Mika Åby
Director, Alholma Sawmill

Responsibility indicators 2023

Contribution to UN Sustainable Development Goals in 2023



Waste

29%

of the waste generated by the pulp mill and sawmill during the year was transferred to intermediate storage or directly recovered.



Safety

The employees of the pulp mill and sawmill carried out

1,070

safety rounds and discussions and made

1,283

safety observations and hazardous situation reports.



Certified fibre

69%

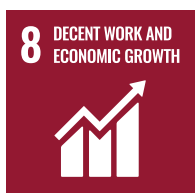
PEFC and/or FSC certified fibre in pulp production. UPM's target is to use only certified fibre by 2030.



Supply chain

83%

of the value of raw material procurements came from suppliers who have committed to UPM's Code of Conduct for supplier and third parties (excluding wood)



Health

The amount spent on the wellbeing of pulp mill and sawmill employees was

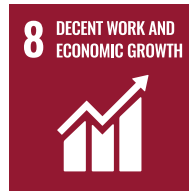
approx. EUR **135,000**



Energy

The share of renewable fuels in pulp production was

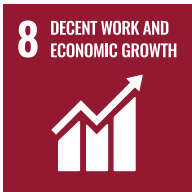
98.5%



Employment

UPM Pietarsaari employed

351 persons



Taxes

Local tax impact of the mill complex was

7.3 million euros

Property taxes: 0.6 million euros

Estimated municipal taxes on personnel salaries: 0.4 million euros

Estimated corporate income tax: 6.3 million euros based on the number of employees*

*share for all the municipalities approx. 24%. Each municipality receives a share of this depending on the ratios calculated based on business and forest operations in the municipality.

In the section on responsibility indicators, under tax impact, the tax impact on wages, and therefore the total tax impact, is significantly lower than in previous years (17 million euros in 2022). This is due to the introduction of social welfare regions. Welfare regions are financed by the state, which means that the municipal tax rates on wages are lower than in the past.



Water

Emission (BOD₇) causing biological oxygen demand in the water body has decreased by

21.4%

nitrogen emissions by

51%

suspended solids by

55%

and phosphorus emissions by

26.3%

per tonne of pulp produced since 2014.



Air

Particle emissions have decreased by

27.8%

per tonne of pulp produced since 2014.

As in previous years, the pulp mill was oversupplied with electricity generated by the combustion of black liquor, the process liquor from the pulp cooking process. The excess electricity was sold to the electrical grid through UPM Energy. The pulp mill and sawmill supplied bark and wood-based residues obtained from the debarking of logs and pulpwood to the Alholmens Kraft power plant on the mill site as fuel. Alholmens Kraft produces steam for the pulp mill, district heat for the city of Pietarsaari and electricity for the national grid.

Measured by specific emission factors, the pulp mill's airborne emissions were within BAT levels. All emission parameters remained below permit regulations. The ramp-up and shutdown situations of the mill related to planned and unplanned stoppages caused some odour issues in the vicinity of the mill. The pulp mill's long-term objective is to become a carbon dioxide-neutral pulp mill.

In line with the target, the plant has systematically reduced direct and indirect fossil carbon dioxide emissions by using fossil fuels only during production start-ups, shutdowns and incidents. The objective is in line with the Group's responsibility targets for 2030. The proportion of renewable fuels in pulp production was again maintained at a high level of 98.5%. The pulp mill's particulate emissions per tonne of pulp produced decreased by 27.8% from 2014 levels by 2023. The burning of odorous gas in the recovery boiler and the backup burner was successful during the year, with an efficiency of 99.4%.

During the year, fossil fuels had to be used as a back-up burner due to production disruptions at the recovery boiler and during the pulp mill overloads. As a result, fossil carbon dioxide emissions have risen from the previous year. The increase in gaseous sulphur compounds is due to production failures in the recovery boiler, which have forced the combustion of concentrated odour gases in a back-up burner to reduce odour emissions. Other emissions remained at a normal level.

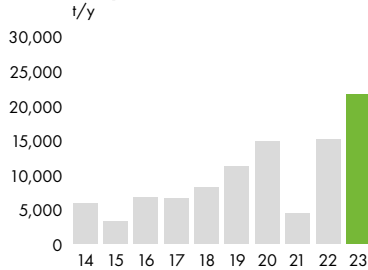
EMISSIONS INTO THE AIR FROM PULP PRODUCTION IN 2023

	Solids t/y	Sulphur dioxide t SO ₂ /year	TRS t S/year	Nitrogen oxides t NO ₂ /year	Chlorine-compounds t Cl/year
Recovery boiler	68	12	7.2	872	
Lime sludge kiln	4	4	0.06	52	
Odorous gas back-up burner (flare)		204			
Bleaching 1					1.5
Bleaching 2					0.0
Fugitive emissions			13.7		
Total	72	220	21	924	1.5

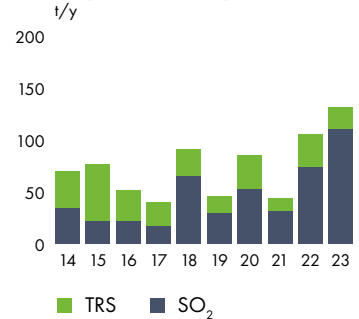
ODOROUS GAS ERADICATION, % of time

	2020	2021	2022	2023
Burnt in the recovery boiler	96.9	97.9	93.4	95.6
Burnt in the back-up burner (flare)	2.2	1.0	5	3.9
Bypassed into the flue	0.9	1.1	1.7	0.5

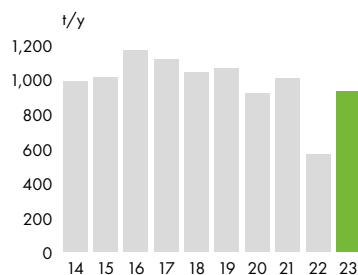
Development in fossil carbon dioxide emissions at the Pietarsaari mill (scope 1)



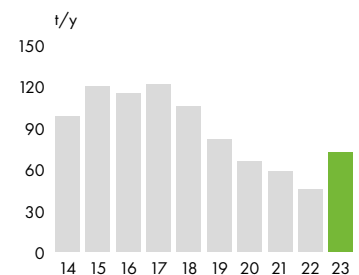
Gaseous sulphur compounds (expressed as sulphur)



Nitrogen oxides, NO₂



Particulates



Water



The pulp mill uses water from Lake Luodonjärvi in its production. About half of this is used as cooling water and the rest as process water. The Alholma sawmill accounts for less than < 0.1% of total water consumption. Water consumption per tonne of pulp produced has decreased by 19.7% compared to 2014.

Wastewater

The pulp mill's long-term goal is to substantially reduce wastewater emissions from 2008 levels by 2030. In 2023, wastewater discharges were clearly below all the limits specified in the environmental permit.

The wastewater treatment plant has sought to optimise the use of phosphorus, which contributes to eutrophication of the marine area. During 2023,

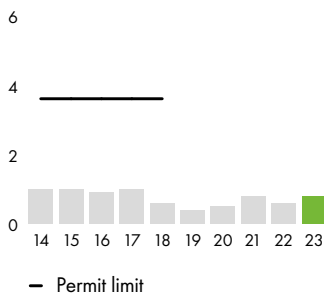
WASTEWATER LOAD COMPARABLE TO THE PERMIT CONDITIONS IN 2023

	Annual average compared to the permit condition 2023	Permit condition, annual average
COD, t/d	31	45
BOD ₇ , t/d	0.4	
Nitrogen, kg/d	181	500
Phosphorus, kg/d	20	45
AOX, t/d	0.19	0.45
Solids, t/d	1.2	4

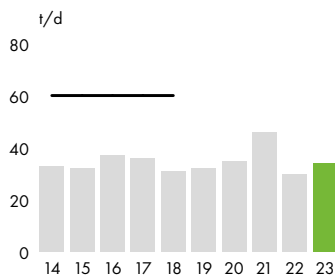
phosphorus emissions per tonne of pulp produced decreased by 26.3%. Emissions of BOD₇ (biological oxygen demand in water) decreased by 21.4%,

nitrogen emissions by 51% and solids emissions by 55% per tonne of pulp produced compared to 2014.

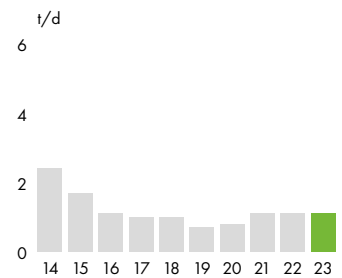
Biological oxygen demand, BOD₇, t/d



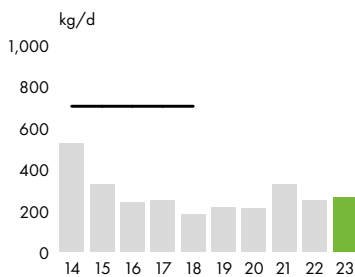
Chemical oxygen demand, COD, t/d



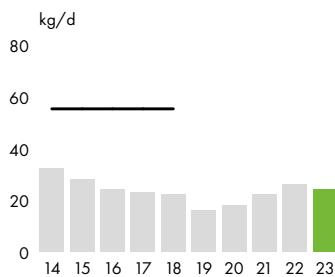
Total suspended solid (TSS), t/d



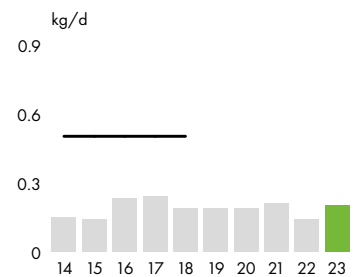
Nitrogen, N, kg/d



Phosphorus, P, kg/d



Adsorbable organic halides, AOX, kg/d





Waste and by-products

During the year, 31% of the waste generated by the pulp mill and sawmill was transferred to intermediate storage or directly recovered. A total of 9,884 t of waste from the pulp mill and sawmill was sent to the on-site landfill, of which 99% was green liquor dregs. The amount of landfill waste per tonne of pulp produced has decreased by 22.7% compared to 2014.

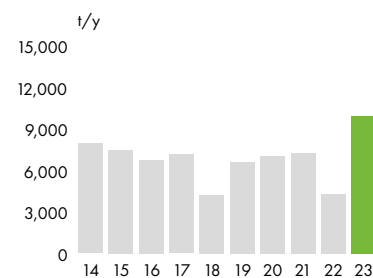
UPM's Finnish pulp mills are working together to utilise green liquor dregs. In Pietarsaari, green liquor dregs is already used as a desulphurisation lime at the Alholmens Kraft power plant. However, due to the decline in peat burning, there has not been a corresponding demand

for green liquor dregs. The ash from the blast furnace and the lime removed from it are used in agriculture and water treatment. The residues from cleaning up the wood harvesting fields on the factory site are used as soil improver.

Production residues

Pine oil and turpentine from the pulp mill production are also important by-products for the mill. Among other things, pine oil is used to make biofuel, and turpentine is used as a fuel in the chemical industry. An objective related to the circular economy is that all sidestreams are utilised and process waste is not taken to the landfill after 2030.

Landfill waste, dry weight



SOLID WASTE 2023 (dry weight, t/year)

	Landfill	To interim storage	Reused waste
Green liquor dregs	9,774		404
Lime			
Wood and bark waste, soil constituents and woodyard cleaning waste		1,532	339
Cable and metal scrap			709
Wood-based construction and demolition waste			267
Construction waste	114	522	66
Other intermediate storage waste		92	
Other recycled waste			644
Total solid waste in 2023	9,888	2,146	2,429
Total solid waste in 2022	4,284	1,247	1,786

BY-PRODUCTS 2023 (dry weight, t/year)

	Reused waste
Calcium dust	1,444
Green liquor dregs	243
Total by-products in 2023	1,687



Management of crises and exceptional situations

Precisely-defined internal instructions are followed in the management and communications of crises and exceptional situations. The following things are considered crises and exceptional situations at UPM's mill properties and site:

- serious accidents at work and when travelling to or from work
- serious accidents (e.g. large fires, explosions, chemical accidents)
- environmental damages
- serious disruptions in production
- (sabotage, demonstrations, health and safety risks, UPM's reputational risks, etc.)
- External threatening situations, such as problems coming from another industrial facility

Operational management includes the controlled shutdown of production and measures required to gain control of the exceptional situation, among other things. Investigation of the incident and the flow of information happens in accordance with the organisation's chain of command and agreed roles.

A crisis management team is in place at the mill to manage an emergency or crisis situation. However, other external companies on the site will operate according to their own guidelines, with all alerts being made to the emergency call centre. Crises and exceptional situations are regularly rehearsed, both independently and in collaboration with rescue authorities, to maintain and improve operational reliability. Numerous drills related to rescue operations are conducted annually. In late 2023, a major disaster drill was organised in cooperation with the rescue authorities.

Social responsibility

Focus on safety and well-being

Our goal in UPM is to be the industry leader in health and safety. Our permanent target is zero accidents. Safety is an inseparable part of our daily activities and is not seen as secondary to anything else. We strive to reduce and eliminate accidents through continuous improvements and effective risk management.

In 2023, there were 8 lost-time accidents at the pulp mill and sawmill. In contrast to previous years, the figures also include accidents to contractors. Proactive safety work was actively carried out at both the pulp mill and sawmill: a total of 1,070 safety rounds and discussions were recorded, as well as 1,283 safety observations and an incident report.

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. Before access to UPM's production sites, contractors participate in UPM safety training, which presents the basic safety requirements. This is complemented by job-specific safety induction and a work permit.

During 2023, a total of approx. 135,000 euros was spent on personnel welfare. The Schauman Sportsmen and Sportswomen Association (SI-SU) organises sports and wellness activities our employees. Different sections offer free access to a variety of sports, such as football, running and volleyball. In addition, employees can use their Epassi balance for various sports, cultural and wellness services worth 250 euros.

Added value for the Pietarsaari region

We create significant economic wealth for the Pietarsaari region. We are a major generator of tax revenue. The property taxes paid and the municipal share of corporate income taxes support the local economy. In addition, the municipal taxes and social security contributions that the employees pay from their wages have a significant local impact. Furthermore, the purchasing power of UPM's employees and subcontractors maintains and enhances the vitality of local communities. Our tax impact in the Pietarsaari area was about 7 million euros.

We use nearly 5 million cubic metres of wood in our factories, most of which is sourced locally. In addition to



forest owners, this provides work and a livelihood to tree harvester and timber truck drivers, loggers and other forestry professionals.

UPM is a major private employer in Pietarsaari. UPM's operations directly employed 351 people.

Local collaboration in many forms

We support sustainable development and promote the financial and mental well-being 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 concrete work in projects agreed upon locally. Our focus is on activities that are relevant to our business, support innovation and sustainability, or promote local vitality and wellbeing. The Biofore Share and Care programme's three priority areas are Reading and learning, Local engagement and Beyond fossils.

In 2023, our sponsorship in the Pietarsaari region focused mainly on supporting sports and physical activities for children and young people, as well as environmental projects. We worked with many local associations and clubs. For example, we awarded a significant sponsorship grant to Pohjanmaan vesi ja ympäristö ry, the regional water and environmental protection association, for an environmental education project for children and young people, and we supported the Ähtävänjoki Fish and Pearls project, which aims to restore the vitality of the Esse and enable fish to return to the river. We also sponsored the UPM Wisamatte maths competition for sixth- and ninth-grade pupils in the Pietarsaari region. In the autumn, we organised an excursion to the forest for sixth-grade pupils in cooperation with the Finnish Forestry Association. The aim of the forest excursion was to provide pupils with a positive forest experience and increase knowledge of the use forests. We also contributed to the vitality of cultural life and local well-being in the area by sponsoring the Rusk Chamber Music Festival and building a fitness stairway in Uusikaarlepyy with our partners.

Environmental parameters

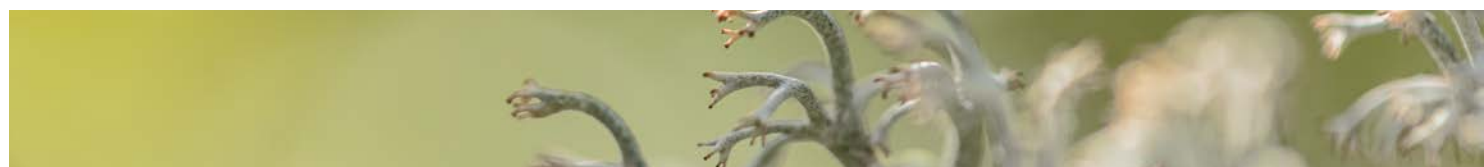
The figures related to production as well as raw material and energy consumption are published as aggregated figures at a group level in the UPM Corporate Environmental and Societal Responsibility Statement.

		2021	2022	2023
Production capacity	Sawn timber	280,000 m ³	280,000 m ³	280,000 m ³
	Pulp	800,000 Adt	800,000 Adt	800,000 Adt
Raw materials and chemicals	Timber	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
	Cooking and bleaching chemicals			
	Others			
Energy	Biomass-based fuels	99.8%	98.3%	98.5%
	Fossil fuels	0.2%	1.7%	1.5%
	Purchased energy	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Air emissions	Particles	58 t	45 t	72 t
	Sulphur dioxide, SO ₂	63 t	148 t	220 t
	Odorous sulphur compounds, TRS (S)	13 t	31 t	21 t
	Nitrogen oxides, NO _x	1,000 t	561 t	924 t
	Carbon dioxide, CO ₂ (scope 1) ¹⁾	4,377 t	15,122 t	21,502 t
	Carbon dioxide, CO ₂ (scope 2) ²⁾		84,017 t	48,162 t
Raw water	Process and cooling water	66,955,366 m ³	46,906,673 m ³	66,073,031 m ³
Discharges into the sea	Cooling and rain water	33,623,923 m ³	24,757,376 m ³	37,297,483 m ³
	Purified waste water	29,500,742 m ³	22,114,297 m ³	28,740,543 m ³
	Biological oxygen demand, BOD ₅	316 t	140 t	118 t
	Chemical oxygen demand, COD _{cr}	14,634 t	10,114 t	12,783 t
	Total suspended solid (TSS)	351 t	186 t	174 t
	Total phosphorus, P _{tot}	9 t	9 t	7 t
	Total nitrogen, N _{tot}	74 t	63 t	62 t
	Adsorbable organic halides, AOX	78 t	44 t	70 t
Side products	Calcium dust	2,327 t	4,138 t	1,444 t
	Green liquor dregs	1,342 t	384 t	243 t
	Total	3,670 t	4,522 t	1,687 t
Solid waste to landfill (abs. dry)	Green liquor dregs	7,205 t	4,177 t	9,774 t
	Building waste	51 t	107 t	114 t
	Other waste			
	Total			9,888 t
Recyclable waste	Metal waste	571 t	802 t	709 t
	Wood and bark waste, soil constituents and woodyard cleaning waste	413 t	529 t	339 t
	Building waste	54 t	270 t	333 t
	Green liquor dregs	–	–	404 t
	Other recycled waste (incl. energy waste)	112 t	186 t	644 t
	Other recycled waste (incl. energy waste)	1,150 t	1,787 t	2,429 t
	Total			
Temporarily stored waste intended for reuse	Branch rejects			
	Lime	1,310 t		
	Metal waste			
	Building waste	24 t	76 t	522 t
	Soil constituents and woodyard cleaning, wood and bark waste	1,752 t	894 t	1,532 t
	Other intermediate storage waste	358 t	277 t	92 t
	Total	3,444 t	1,247 t	2,146 t
Hazardous waste³⁾				136.57 t
Total amount of land use	– total amount of land use	210 ha	210 ha	210 ha
	– area impermeable to water	200 ha	200 ha	200 ha
	– nature conservation-oriented area	10 ha	10 ha	10 ha
	– nature conservation-oriented area outside the place of business	5 ha	5 ha	5 ha

¹⁾ Fossil emissions from own energy production, scope 1

²⁾ Fossil emissions from purchased energy, scope 2

³⁾ Hazardous waste stated as total weight



Performance against targets in 2023

TARGET	ACHIEVED	COMMENTS
Pulp mill Clean Run environmental irregularity observations' class 3–5 deviations: 0	Yes	In 2023, there were no emissions exceeding the permitted limits.
Solid process waste to landfill < 6.7 kg/t of pulp	No	No permanent use has yet been found for green liquorice sludge. Several studies are still ongoing.
Testing of recycled nutrients as an additional nutrient source for the wastewater purification plant	No	A cost-competitive recycled feed has not yet found. The study is ongoing.
Consumption of process water < 35.4 m ³ /t of pulp	No	In the reference period, the target was met in five months, but the average for the whole year was above the target.
COD emission from treated process water < 16.2 kg/t of pulp and < 45 t/d	Yes	During the reference period, the target was exceeded in two months, while the average emission for the year below the target.
AOX emission from treated process water < 0.12 kg/t of pulp and < 0.45 t/d	Yes	During the reference period, specific emissions and average emissions for the whole year were below the target
Phosphorus emissions from purified process water < 45 kg/d	Yes	The average emission for the whole year was below the target.
Nitrogen emissions from purified process water < 500 kg/d	Yes	The average emission for the whole year was below the target.
Solids emissions from purified process water < 4 t/d	Yes	The average emission for the whole year was below the target.
Specific emissions of acidifying flue gas < 1.38 kg/t of pulp	Yes	The average specific emissions for the year were below target.
Specific emissions of fossil carbon dioxide < 3 kg/t of pulp	No	Due to production disruptions, fossil fuels had to be used at times during the year.
NO _x emissions from the recovery boiler < 250 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
SO ₂ emissions from recovery boilers < 40 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Recovery boiler TRS emission < 8 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Recovery boiler particulate emissions < 40 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Furnace NO _x emission < 400 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Furnace SO ₂ emission < 160 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Furnace TRS emission < 16 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Furnace particulate emissions < 45 mg/m ³ (n)	Yes	The average emission for the whole year was below the target.
Alholma sawmill Improvement in energy efficiency by 1% in 2023 vs. 2022.	Yes	The energy efficiency of the Alholma sawmill improved slightly.
Clean run environmental irregularity observations with class 3–5 deviations: zero.	Yes	Total: zero.
Environmental observations, at least two per month	Yes	27 environmental observations were made in 2023
Environmental observations, at least 2 per month	Yes	A total of 38 rounds were carried out in 2023
Reduction of the amount of waste to be incinerated: target 0.15 kg/load of timber m ³	Yes	The amount of waste to be incinerated was reduced, for example, by recovering and recycling plastics.

Targets for 2024

TARGET
Pulp mill
Clean Run environmental irregularity observations' class 3–5 deviations: 0
Solid waste to landfill < 5.1 kg/t of pulp
Testing of recycled nutrients as an additional nutrient source for the waste water purification plant
Process water consumption < 35.4 m ³ /t of pulp
COD emissions from purified process water < 15.7 kg/t of pulp and < 45 t/d
AOX emissions from purified process water < 0.12 kg/t of pulp and < 0.45 t/d
Phosphorus emissions from treated process water < 16.1 kg/t of pulp and < 45 t/d
Nitrogen emissions from purified process water < 500 kg/d
Solids emissions of purified process water < 4 t/d
Specific emissions of acidifying flue gas < 1.36 kg/t of pulp
Specific emissions of fossil carbon dioxide < 11 kg/t of pulp
NO _x emissions from the recovery boiler < 250 mg/m ³ (n)
SO ₂ emissions from recovery boilers < 40 mg/m ³ (n)
Recovery boiler TRS emission < 8 mg/m ³ (n)
Recovery boiler particulate emissions < 40 mg/m ³ (n)
Furnace NO _x emission < 400 mg/m ³ (n)
Furnace SO ₂ emission < 160 mg/m ³ (n)
Furnace TRS emission < 16 mg/m ³ (n)
Furnace particulate emissions < 45 mg/m ³ (n)
Alholma sawmill
Improving energy efficiency by 1%: 2024 target 0.332 Mwh/m ³
Clean Run environmental irregularity observations' class 3–5 deviations: 0
At least 30 environmental observations in 2024
Environmental observations, at least 2 per month in 2024
The amount of waste going to incineration in 2024 was reduced by approx. 0.106 kg/m ³



Revalidation statement

As an accredited verifier, Inspecta Sertifointi Oy (FI-V-0001) has inspected the environmental system, the UPM Pietarsaari Environmental and Social Responsibility 2023 Report and the information concerning UPM Pietarsaari in the UPM concern's Environmental and Social Responsibility Report's update information for 2023.

On the basis of this examination, the environmental verifier confirmed on 3 April 2024 that the environmental management system, this UPM Pietarsaari Environmental and Social Responsibility 2023 Report and the update information concerning UPM Pietarsaari in the UPM concern's Environmental and Social Responsibility Report 2023 are in compliance with the requirements of the EU's EMAS Regulation (EC) No. 1221/2009.



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**UPM-Kymmene Corporation
Pietarsaari**

Luodontie 149, P.O. Box 42
FI-68601 Pietarsaari, Finland

More information
Tomi Heikkinen
Environmental Manager
Tel. 040 585 2439
tomi.heikkinen@upm.com

Kaisa Uusitalo
Stakeholder Relations Manager
Tel. 050 442 0633
kaisa.uusitalo@upm.com