

UPM Nordland Papier

ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY 2020



UPM Nordland Papier

UPM Nordland Papier is located in the Emsland town of Dörpen/Lower Saxony. Founded in 1967, the paper mill ranks today among the biggest paper producers worldwide.

UPM Nordland Papier produces woodfree graphic writing and printing papers – so-called fine papers – on three paper machines and two coating machines. Additionally, one paper machine was converted to specialty papers (e.g. for the foodstuff industry). The mill makes paper from chemical pulp. Calcium carbonate is used as a filler. Coated paper grades additionally contain kaolin as a pigment.

The wastewater generated from the production processes is cleaned in the mill's own effluent treatment plant before it is discharged into the Ems river. Fresh water is drawn from deep wells, paying attention to sustainable groundwater regeneration. All of the electricity required by the mill is purchased from the local grid/power company. The steam required for paper drying is generated by combustion of natural gas in the mill's own boiler house.

Two daughter companies of UPM-Kymmene Beteiligungsgesellschaft operate on the mill premises. The nortrans Speditionsgesellschaft mbH provides freight transport services for the paper mill. NorService GmbH specialises in custom paper finishing. These two companies are not validated under EMAS.



Production capacity	Up to 1,075 million tonnes/annum	
Personnel	Approx. 1,288 (total headcount including apprentices) as at 31.12.2020	
Products	<p>Fine Papers:</p> <p>UPM Fine UPM Digi</p> <p>UPM Preprint UPM Mail</p> <p>UPM Office UPM PrePersonal</p> <p>UPM Label UPM Office Recycled plus</p> <p>UPM Unique UPM Office Recycled premium</p> <p>UPM Finesse</p>	<p>Specialty papers:</p> <p>UPM Brilliant™</p> <p>UPM Brilliant™ Forte</p> <p>UPM Honey™ Plus</p> <p>UPM Honey™ Plus Forte</p> <p>UPM Golden™</p> <p>UPM Golden™ Forte</p> <p>UPM Solide™ Strong</p>
Certificates	<p>EMAS – EU Eco-Management and Audit Scheme</p> <p>ISO 14001 – Environmental Management System</p> <p>ISO 9001 – Quality Management System</p> <p>ISO 50001 – Energy Management System</p> <p>ISO 45001 – Occupational Health and Safety Management System</p> <p>ISO 22000 – Food Safety Management System (for parts of the mill)</p> <p>PEFC™ Chain-of-Custody – Programme for the Endorsement of Forest Certification</p> <p>FSC® Chain-of-Custody – Forest Stewardship Council®</p> <p>All certificates can be found from UPM's Certificate finder (available at upm.com/responsibility)</p>	
Environmental labels	<p>EU Ecolabel for copying and graphic paper</p> <p>Blue Angel for UPM Office Recycled plus</p>	



UPM Nordland Papier Environmental and Societal Responsibility 2020 is a supplement to the Corporate Environmental and Societal Responsibility Statement of UPM's pulp and paper mills (available at www.upm.com) and provides mill-specific environmental and societal performance data and trends for the year 2020. The annually updated mill supplements and the UPM Corporate Environmental and Societal Responsibility Statement together form the joint EMAS Statement of UPM Corporation. The next Updated UPM Corporate Environmental Statement and also this supplement will be published in 2022.

UPM delivers renewable and responsible solutions and innovates for a future beyond fossils across six business areas: UPM Biorefining, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Communication Papers and UPM Plywood. As the industry leader in responsibility we are committed to the UN Business Ambition for 1.5°C and the science-based targets to mitigate climate change. We employ 18,000 people worldwide and our annual sales are approximately EUR 8.6 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. www.upm.com



The mark of responsible forestry

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



For more information about PEFC certification visit www.pefc.org



EU Ecolabel : FI/011/001



www.blauer-engel.de/uz14

Review of year 2020

ENVIRONMENTAL PERFORMANCE IN 2020

Sustainable operations

UPM took significant steps forward in 2020 to implement its sustainability agenda. In January, UPM committed to the United Nations' Business Ambition for 1.5°C, promising to pursue science-based measures to mitigate climate change. This was one of the reasons why UPM was recognised in September as a UN Global Compact LEAD participant. UN Global Compact is the world's largest corporate sustainability initiative and LEAD companies represent the highest level of engagement with the UN Global Compact.

Moreover, UPM was listed in the Dow Jones European and World Sustainability Indices (DJSI) for the eighth time in a row and again named Paper and Forest industry leader in 2020. The DJSI assessment is based on the analysis of the economic, environmental and social performance of businesses.

Important activities at our mill in this respect include sustainable sourcing of pulp, continuous improvement of resource efficiency, an open mind for new technologies, particularly in the environmental field, and taking responsibility for our workforce, the local communities and our stakeholders. In this way, economy, environmental protection and social cohesion go hand in hand.

Clean Run campaign

In 2020 too, a strong focus was on the Clean Run campaign, aimed at environmentally friendly production without environmentally relevant incidents. In a Group-wide database, employees can record deviations according to predefined categories, from 0 (not significant) to 5 (serious environmental damage). There were mainly minor observations, which demonstrates the employees' awareness of environmental safety issues. The number of reported category 0–2 incidents was slightly lower than in 2019, which was primarily due to the fact that a large number of employees worked from home because of the Covid-19 pandemic. Fortunately, there were no category 3, 4 or 5 incidents in 2020. For the less serious categories (0–2), a root cause analysis is carried out regularly in order to be able

to specifically eliminate the most common Clean Run problems.

Impacts of the paper machine 2 conversion

As papermaking is a water-intensive industry, our focus is on conserving water bodies and using water resources sparingly.

After the conversion of paper machine 2 to glassine paper production in 2019, special emphasis had to be placed on the wastewater levels associated with it. The machine's start-up led to an increased water consumption which we are continuously optimising. At the same time, the ultrafiltration and reverse osmosis plant installed in 2018 contributed significantly to water savings by achieving its target values. Therefore, we were able to keep low the impact of the converted paper machine on overall water consumption.

The operation of the converted paper machine also led to a higher volume of effluent treatment residue. Here too, optimisations are underway (see page 6 & 7).

Sustainable energy supply

The construction of a new power plant marked the start of another major project at the Dörpen site in 2020. UPM invests EUR 95 million in a highly efficient combined

heat and power plant, which provides a stable and economically predictable power and heat supply. The highly efficient cogeneration unit, with an efficiency of up to 90%, is estimated to decrease UPM's CO₂ footprint by 300,000 tonnes/annum. In the course of the power plant project, the old employee car park was relocated. The new car park now offers employees driving electric cars the opportunity to recharge them on site at six charging points equalling twelve charging stations.

Third-party audits

UPM Nordland Papier's environment-friendly business practices are based on UPM Communication Paper's environmental policies. Environmental concerns have always been deeply ingrained in our way of thinking and doing business. Certification to ISO 14001 and validation to the EU's Eco-Management and Audit Scheme (EMAS) in 1998 just provided the formal framework for this approach. In the course of the last years, we have broadened our certifications to include PEFC, FSC and the EU's environmental labelling scheme ("EU flower") and, in 2012, ISO 50001.

These successful measures strengthened our resolve to also in the future have our environmental performance third-party-audited.



Klaus Reimann,
General Manager



Barbara T. Köster,
Manager Environmental Affairs

Responsibility figures 2020



Air

25%

reduction in CO₂ emissions
from 2011

26%

reduction in nitrogen oxide (NO_x)
emissions from 2011



Waste

Recovery rate:

> 98%



Health

Number of times employees
who made use of our healthcare
offerings in 2020:

2,413

Water



COD load reduced by

53%

from 2011

BOD₅ load reduced by

72%

from 2011

Workforce



> 5,450

training days for our employees in 2020

Certified fiber



100%

from controlled sources of which

84%

certified under PEFC/FSC
(sustainable forestry)

Air



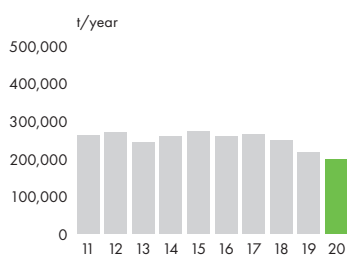
As UPM Nordland Papier uses pure, low-sulphur natural gas, it is not necessary to measure the concentration of sulphur in the exhaust air.

The boiler plants are still being operated close to their emissions limit of 100 mg/m³ NO_x. Therefore, varying weather conditions still have an impact on the boiler plants' emissions characteristics. The boiler operating staff must intervene manually to ensure that the limit values are not exceeded in these special situations.

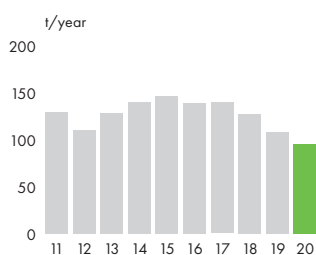
No limits were exceeded in 2020. CO₂ and NO_x emissions in absolute terms were down in accordance with the mill's reduced capacity utilisation resulting from Covid-19.

	Limit value (mg/m ³)	Mean values measured (mg/m ³)					
		Boiler 1	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Boiler 7
CO	50	1.61	out of service	1.26	1.59	1.00	1.08
NO _x	100	81		74	84	85	85

Fossil carbon dioxide, CO₂



Nitrogen oxide, NO_x



Water

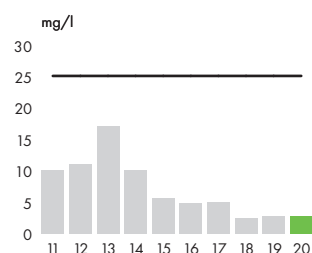


In 2020 the effluent treatment plant ran stably. The average annual outflow concentration being much lower than the statutory requirements, we committed ourselves to the authorities to meeting much stricter limits for specified parameters.

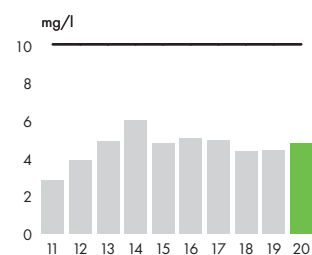
There were no Clean Run category 3 (or higher) incidents in 2020. Upon completion of the new process water treatment plant with ultrafiltration and reverse osmosis we achieved fresh water savings of 80 m³/h.

At the same time, the effluent treatment plant had to overcome a

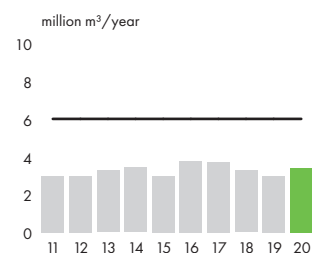
Biological oxygen demand, BOD₅



Nitrogen (inorganic), N



Effluent volume



Waste



new challenge. The start-up of the converted paper machine 2 led to higher effluent volumes which could not be fully compensated by process water treatment. Additionally, due to the Covid-19 pandemic, it was necessary to frequently start and stop machines. Overall, this situation resulted in an increased water use in comparison with the previous year.

Effluent treatment at UPM Nordland Papier

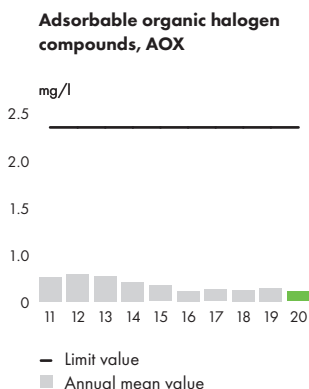
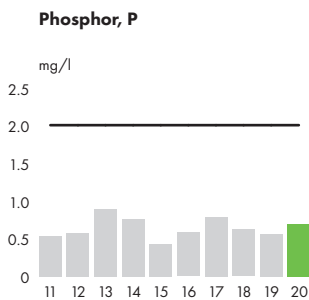
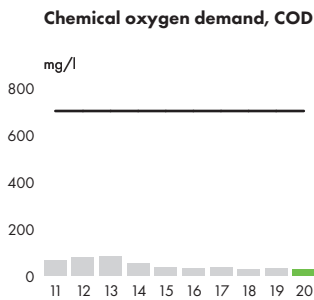
The site carries out primary sedimentation, biological treatment and secondary sedimentation of its effluents.

The amount of waste in 2020 was 33% higher than in the previous year. This was essentially due to two influencing factors: the rebuild of PM2 in 2019 generated large amounts of paper waste following the machine's start-up and contributed significantly to an increase in fibre and paper sludge. Additionally, there were separate amounts of production sludge and coating colour. The second factor was the beginning of the power plant project, which caused large amounts of construction waste.

Fibre and paper sludge constitute the largest waste fraction at UPM Nord-

land Papier. Studies were carried out in 2020 to develop a concrete concept for recovering biological and fibre sludge separately. The concept is planned to be introduced into the market during 2021. The waste recovery rate in 2020 was in excess of 98 %, remaining at the customary high level despite the aforementioned factors.

All wastes are forwarded to certified waste management companies for disposal and the generation of "hazardous" wastes is avoided wherever possible.



Organisational structure and emergency organisation

As required by law, appointed officers advise the mill management and the departments in the areas of water protection, waste, hazardous goods, radiation, fire and laser protection and data security. In addition to the operators in charge of the plants, there are designated individuals in charge of the operational implementation. This also includes requirements regarding emission control, hazardous waste and the industrial safety ordinance.

In addition, there are designated representatives responsible for the integrated management system (quality, environment, energy and occupational safety). Relevant organisational charts are available and up to date.

Emergency organisation

Comprehensive emergency plans have been defined for emergencies of all kinds, such as fire, industrial accidents and environmental incidents. The mill fire brigade's emergency manual contains instructions for alerting and detailed procedures for emergencies and catastrophes. Follow-up is provided in accordance with UPMs "One Safety" tool.

Societal responsibility

Health and safety at work

At UPM, occupational safety and preventive healthcare go hand in hand, because just preventing accidents is not enough for us. Our company wants healthy employees who enjoy their work and have fun in life. Our concept in this field is diverse and includes training for occupational health and safety, special health promotions and non-smoking seminars. Also, we offer all our employees an "activity card", with which they can collect points for personal health activities. In addition, there is the mill sports team, an ideas competition for occupational safety and the "nopaFit" health room, where medical check-ups are conducted.

UPM too faced unprecedented challenges from the Covid-19 pandemic. Many popular sporting events, such as our chimney run, had to be cancelled. However, change always brings innovation. As a result, the active break that normally takes place in the health room was held as a video conference to comply with social distance rules and home office work, and the associated videos can now be accessed individually.

Already in April, we offered numerous tips on the intranet for healthy working from home and mental well-being in times of Covid-19. It was also possible to hold the annual blood donation event thanks to an appropriate concept and the flu vaccination campaign was so successful that all 200 doses were used up.

Community involvement

We make social responsibility a reality through our strong commitment to responsible and ethical business practices wherever we operate. Well-functioning stakeholder dialogue is a key component for UPM's success as a global company. Our operations impact local communities and societies in many ways. We are committed to developing the vitality of the communities close to our operations through active co-operation and open dialogue with various stakeholders as well as, for example, through sponsorships and donations.

For the past 11 years, UPM Nordland Papier in Dörpen has distributed, as part of the "activity card" scheme, a total of € 5,000 each year to ten local associations proposed by the employees. As the decision is made by drawing lots, numerous and very different associations have benefitted from our support, such as children's fire brigades, music clubs, youth groups, sports clubs, etc.

To engage in the fight against the pandemic, UPM procured, in the spring, facial masks both for its own employees and employees of sub-contractors working on UPM premises and made available 10,000 masks that UPM Nordland Papier could provide for its local community free of charge. 4,000 masks went to the Johannesstift retirement and nursing home in Dörpen and 6,000 to the St. Lukas home in Papenburg and the Caritas sheltered workshops in the Northern Emsland.

Youth work and employment

This year, 14 young people started training with UPM Nordland Papier for careers such as industrial electronics technician, industrial mechanic, paper technologist, machine and plant operator, warehouse logistics expert and computer science expert.

UPM is proud to offer apprentices a varied and interesting career in an innovative international company through a combination of theoretical knowledge and practical experience. And by the time they complete their vocational training, the apprentices will not only





have acquired excellent professional qualifications at UPM, but also methodological, social and personal skills for a successful professional life.

Under the motto "From apprentices for apprentices", the Vocational Training Night took place for the eighth time on 7 February 2020. All apprentices at the site were actively involved from the very start, preparing a presentation of their career choices to give the 175 participants an unforgettable night.

Every 15 minutes, a group of visitors started on a tour of the site presenting the different stages of the apprenticeship occupations. For the first time this year, Oculus virtual reality glasses were used, enabling the visitors to also experience the mill tour virtually. This year too, our cooperation partners included Papierzentrum Gernsbach, Berufsbildende Schulen Papenburg, Berufsakademie Lingen and Johannesburg Surwold.

Commitment to responsible sourcing practices

We work closely with our suppliers to ensure that they understand and meet all of our requirements on sustainability and responsibility. UPM requires its suppliers to apply the principles of the UPM Supplier and Third Party Code which defines the minimum level of performance in the areas of environmental impacts, human rights, labour practices, health and safety at work, product safety and corruption and bribery. We monitor the environmental and social performance of our suppliers by regular data collection and analysis. Based on the risk assessments we conduct every year, we decide which suppliers should be subjected to closer scrutiny. In case of non-conformities, the supplier has to take corrective action. We closely monitor the outcome of these measures and are happy to make our expertise available to our suppliers to help them improve their performance.

Environmental parameters

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

		2018	2019	2020
Production capacity	Paper	Up to 1,325,000 t	Up to 1,235,000 t	Up to 1,075,000 t
Raw materials and additives	Chemical pulp Pigments Process chemicals Consumables	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Energy	Fossil fuels Purchased power	See UPM Corporate Environmental and Societal Responsibility Statement for more information		
Airborne emissions	Carbon dioxide (fossil), CO ₂ Nitrogen oxide, NO _x	247,095 t 126.18 t	216,145 t 107.11 t	195,931 t 94.42 t
Water intake	Process and cooling water	4,735,919 m ³	4,274,252 m ³	4,740,707 m ³
Discharges to water	Effluent volume Chemical oxygen demand, COD Biological oxygen demand, BOD ₅ Phosphorus, P Nitrogen, N (inorganic) Adsorbable organic halogens, AOX	3,268,797 m ³ 95 t 8 t 2.0 t 14 t 0.5 t	2,965,213 m ³ 92 t 8 t 1.7 t 13 t 0.5 t	3,392,600 m ³ 92 t 9 t 2.3 t 16 t 0.4 t
Waste	Total waste for recovery (excluding hazardous waste) of which – Fibre and paper sludge (incl. moisture) – Wood – Metal – Paper, cardboard, pins – Power station construction waste – Other waste Hazardous waste of which amount for disposal: Recovery ratio (in relation total waste volume)	20,097 t 16,155 t 51 t 1,665 t 1,712 t 514 t 130 t 99.7%	21,628 t 16,881 t 310 t 1,896 t 1,641 t 900 t 112 t 98.5%	28,601 t 19,633 t 122 t 1,522 t 2,992 t* 3,552 t 780 t 377 t* 321 t 98.1%
Land use with regard to biodiversity	Total use of land Sealed area Nature-oriented area on site Greened roofs	60 ha 27 ha 33 ha 1.35 ha	60 ha 27 ha 33 ha 1.35 ha	60 ha 28 ha 32 ha 1.35 ha

* Due to the conversion of paper machine 2 and the changeover to a new paper grade, these figures are higher compared to previous years.



Performance against targets in 2020

TARGETS AND MEASURES*	TARGET ACHIEVED	COMMENTS
1 Water – Effluent treatment by process water recycling – 80 m ³ /h	Yes	– Optimisation completed and target achieved
2 Implementation of energy saving measures – Condensate injection into process steam regulator 11 • saving of approx. 2,700 MWh/a – Optimise flow rate through heat exchanger on after-dryer section of PM 3 • saving of approx. 800 MWh/a – Replace two gas fork lift trucks by electric trucks in converting • saving of approx. 875 MWh/a	No Yes No	– Implementation could not take place until 2021 – 800 MWh/a saved as planned – Replacement resulted in saving of approx. 500 MWh/a
3 Environmental incidents – No Clean Run category 3, 4 or 5 incidents – All Clean Run category 0, 1 and 2 incidents fully reported and addressed (rule of thumb: 5/month)	Yes No	– No category 3–5 incidents in 2020 – On average 4.3 category 0–2 incidents reported per month
4 Measures to achieve UPM sustainability goals 2030 – Prepare investment decision for installation of Hydroseal on PM 3 and PM 4 to reduce fresh water use	Yes	– Investment decision prepared. Positive results with trial drum awaiting confirmation by further testing.
5 Concept for future use of effluent treatment residue – Establish project team and explore recovery options	Yes	– Project established and concept developed. To be continued in 2021.

* See the mill's S-imple target setting process for figures

Targets for 2021

TARGETS	DEADLINE	DEPARTMENT RESPONSIBLE
1 Water – Prepare investment decision for expansion of effluent treatment plant by process water recycling up to 160 m ³ /h	31.12.2021	Production Technical department
2 Implementation of energy saving measures – Insulate two broke towers on PM2 • saving of approx. 2,700 MWh/a – Newly connect chemical pulp supply from South tower to PM 1 • electricity saving of approx. 1,600 MWh/a – Install new energy-optimised nozzle system in gas drying section of coater 2 • heat energy saving of 14,800 MWh/a	31.12.2021	Production
3 Environmental incidents – No Clean Run category 3, 4 or 5 incidents	31.12.2021	All departments
4 Measures to achieve UPM sustainability goals 2030 – Test recycled nutrients in effluent treatment plant – Test recycled phosphorus in effluent treatment plant	31.12.2021	Production
5 Waste – Reduce amount of effluent treatment residue by 3% from 2020	31.12.2021	Production



Environmental verifier's declaration on verification and revalidation activities

Environmental verifier Astrid Günther (DE-V-0357), acting for TÜV NORD CERT Umweltgutachter GmbH, licensed for the scope NACE Code 17.12 (papermaking), declares to have verified whether the site Nordland Papier GmbH, in D-26892, Dörpen, Nordlandallee 1, as indicated in the updated UPM Corporate Environmental and Societal Responsibility Statement 2020 of the mentioned site (registration no. FI-000058), meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 as amended by Regulation (EU) 2017/1505 and Regulation (EU) 2018/2026 of the commission on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS).

By signing this declaration, I declare that:
– the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009,
– the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment, the data and information of the updated Environmental

Statement 2020 of Nordland Papier GmbH, reflect a reliable, credible and correct image of all the activities of Nordland Papier GmbH, within the scope mentioned in the updated Environmental Statement 2020.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Essen, 30.04.2021

Astrid Günther
Environmental verifier
DE-V-0357
TÜV NORD CERT Umweltgutachter GmbH

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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