

UPM Nordland Papier

ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY 2018



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 fine paper producers worldwide.

UPM Nordland Papier produces woodfree graphic writing and printing papers – so-called fine papers – on four paper machines and two coating machines. 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 power company. The steam required for paper drying is generated by combustion of natural gas in the mill's own combined heat and power plant.

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.



UPM Nordland Papier Environmental and Societal Responsibility 2018 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 2018. 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 UPM Corporate Environmental and Societal Responsibility Statement and also this supplement will be published in 2020.

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. We employ around 19,000 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

Production capacity	Up to 1.325 million tonnes/annum	
Personnel	Approx. 1,285 (total headcount including apprentices) as at 31.12.2018	
Products	Fine Papers: UPM Fine UPM Preprint <i>Future</i> UPM Office UPM Label UPM Unique	UPM Finesse UPM Digi Yes UPM Mail UPM PrePersonal UPM Office Recycled plus UPM Office Recycled premium
Certificates	EMAS – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System Standard ISO 9001 – Quality Management System Standard ISO 50001 – Energy Management System Standard OHSAS 18001 – Occupational Health and Safety System Standard PEFC™ Chain-of-Custody – Programme for the Endorsement of Forest Certification FSC® Chain-of-Custody – Forest Stewardship Council®	
	All certificates can be found from UPM's Certificate finder (available at upm.com/responsibility)	
Environmental labels	EU Ecolabel for copying and graphic paper Blue Angel for UPM Office Recycled plus	



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/uz72

Review of year 2018

Environmental performance in 2018

Major environmental project

From an environmental point of view, the past year was marked by our large effluent recycling project. At the end of 2017, work began on the construction of an ultrafiltration plant for the recovery of wastewater. In the summer of 2018, we were able to take the first samples of treated wastewater and start optimising the plant. It is planned to reuse a partial stream of the wastewater (100 m³/h) in production to replace fresh water.

At the same time, we continuously worked on other projects regarding, for example, material efficiency, the reporting of incidents to improve prevention, and energy saving measures. The latter are described in detail in the energy management system.

Sustainable operations

In September of 2018, UPM was listed in the Dow Jones World Sustainability Index (DJKSI) as the forest and paper industry leader. UPM was listed in the Dow Jones European and World Sustainability Indices for the sixth time. The DJSI assessment is based on the analysis of the economic, environmental and social performance of businesses. As UPM's fine paper mill in Germany we are proud to be a part of this. Important activities at our mill in this respect include sustainable sourcing of wood fibres, continuous improvement of resource efficiency, an open mind for new technologies, particularly in the environ-

mental field. A point in case in 2018 was the above-mentioned effluent recycling project. The further significant reduction of our fresh water consumption from the already good level was an example of successful innovation.

We are actively taking responsibility for our workforce, the local communities and our stakeholders. In this way, economy, environmental protection and social cohesion go hand in hand.

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 2018



Waste

0%

Process waste to landfill

> 99%

Recovery rate

Health



Number of times employees made use of our healthcare offerings in 2018:

2,513



Energy

Specific power consumption reduced by

14.05%

since 2009

Specific gas consumption reduced by

4.64%

since 2009

Water



Average COD reduced by

36%

in comparison with 2009

Average BOD₅ reduced by

50%

in comparison with 2017

Workforce



Approx. **3,400**

Training days for our employees in 2018

Certified fibre



under PEFC/FSC
(sustainable forestry)

> 97%

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.

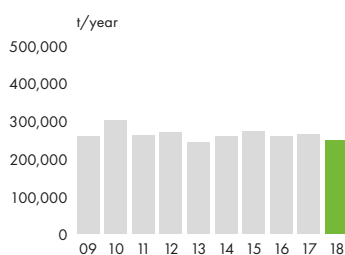
Following the modification of the operating permit for the paper mill in 2017, which resulted in a reduction of the allowable emissions from the boiler plants, there were problems with the measured emission values from the boiler plants exceeding the limits. Having investigated the causes in collaboration with the TÜV and an external partner, it turned out that the modification of the emission limit required the transmission signal to the process control system to be adjusted. Once this had been done in 2018, the boilers' emissions behaviour became much more consistent.

Although the plants are still running close to their 100 mg/m³ limit, the short-term limit was exceeded only rarely. Varying weather conditions still have an impact on the boiler plants' emissions characteristics.

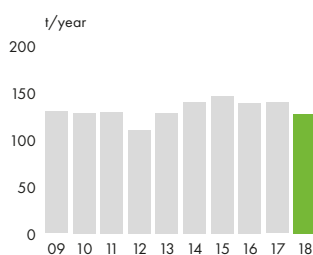
In November of 2018 two analysers (boilers 1 and 7) suffered total damage. They were both repaired by an external company. As there was at first only one substitute analyser available, the smallest boiler had to be run with a fixed power output for 1.5 days. There are documented manual measurements for this period of time.

	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	2.98	out of service	3.33	6.56	3.99	2.22
NO _x	100	86		79	88	89	88

Fossil carbon dioxide, CO₂



Nitrogen oxide, NO_x



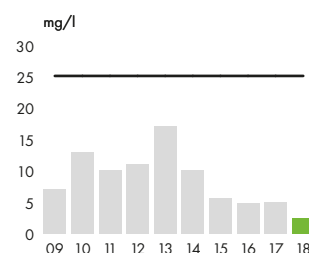
Water



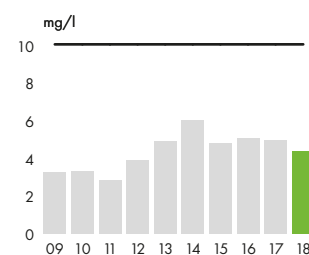
In 2018 the effluent treatment plant ran mostly stably. The average annual outflow concentration being much lower than the statutory requirements, we committed ourselves to the authorities to meeting much stricter limits for specified parameters.

Nevertheless, there was one Clean Run category 3 deviation in 2018. In March, there was, for a short time, flocculation in the outflow from the treatment plant. The causes were analysed and the actions to be taken actively coordinated with the authorities in charge.

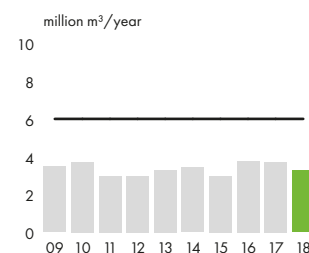
Biological oxygen demand, BOD₅



Nitrogen (inorganic), N



Effluent volume



Waste



In 2018 we started to reduce the amount of cleaned effluent discharged into the river Ems. In order to achieve this, we put into operation our new process water treatment plant with ultrafiltration and reverse osmosis and started optimizing it. The planned recycling rate is expected to be fully reached in 2019.

Effluent treatment at UPM Nordland Papier

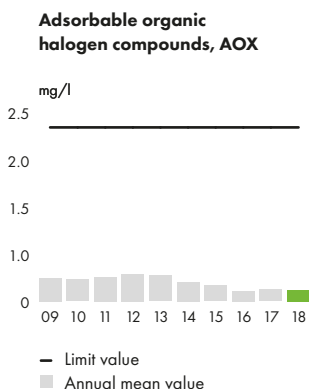
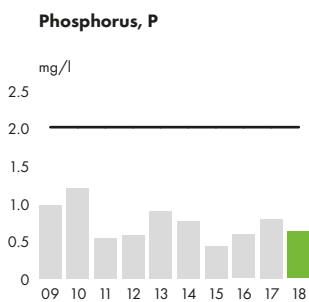
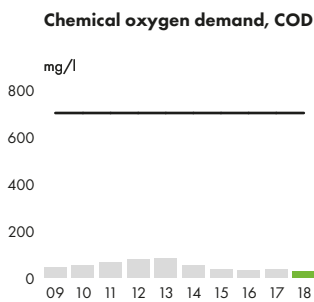
The site carries out primary sedimentation, biological treatment and secondary sedimentation of its effluents.

Fibre and paper sludge constitute the largest waste fraction at UPM Nordland Papier. Action is currently underway to reduce their volume.

The amount of hazardous wastes in 2018 was much higher than in 2017. However, this was a one-off effect rather than a general trend.

The waste recovery rate in 2018 exceeded 99 %.

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 specialist 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.

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 UPMs "One Safety" tool.

Societal responsibility

Community involvement

Well-functioning stakeholder dialogue is a key component for UPM's success as a global company. Our most important stakeholders are customers, investors, employees, suppliers, authorities and key decision-makers, the media, non-governmental organisations and local communities.

We 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. A case in point is the donation to an annually changing organisation, which the employees raise by sports or health activities. Social responsibility means for us the commitment to responsible and ethical business practices wherever we operate.

Also at the UPM Nordland Papier site in Dörpen, we take responsibility towards the region we operate in and society in varied ways. We consider social responsibility a cornerstone of sustainability. We offer diverse opportunities for vocational training to school leavers, a learning cooperation with the local secondary school, an annual "vocational training night", mill visits for the general public, childrens' days for our staff and, last but not least, an attrac-

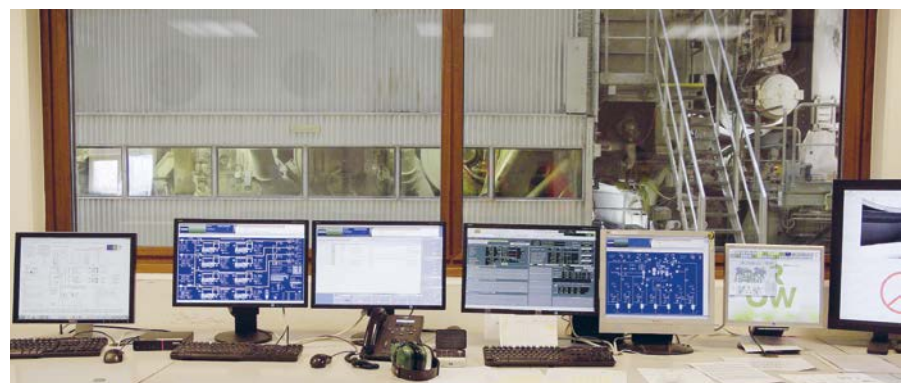
tive company pension scheme. Since 2017, we have had our interactive "Papierwelt" museum, where visitors find extensive information on UPM and paper products and can try their hand at papermaking.

Responsible sourcing and supplier qualification

UPM is committed 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, 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.





Health and safety at work

Safety first! Occupational safety means for us not only preventing accidents, but also actively promoting the health of our workforce. Health and safety at work training, health days, a full-time health manager, a mill sports team, an ideas competition for occupational health and safety and the “nopaFit” health room, where medical check-ups are conducted, are part of our concept. Also, we offer every employee a so-called “activity card”, with which they can collect points for personal health activities.

Employee skills

In the past year we organised about 4,000 training events for our staff. The topics covered ranged from skills that are directly relevant for the employees’ work and leadership/behavioural training through to environmental and occupational health and safety matters.

Communication

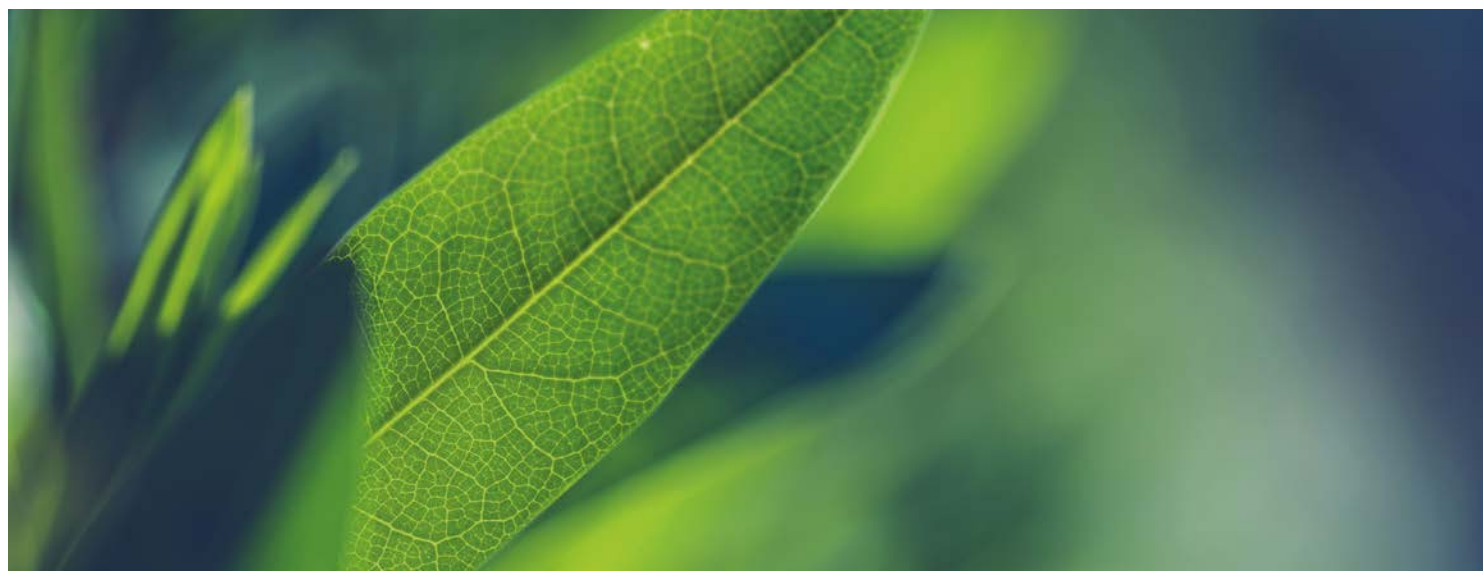
We use the intranet to keep all our staff up to date in a timely manner on current affairs, internal UPM news and mill specific topics. However, special emphasis is placed on personal communication.

Environmental parameters 2018

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.

Production capacity	Paper	Up to 1,325,000 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
Water intake	Process and cooling water	4,735,919 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
Waste*	Total waste volume of which – Fibre and paper sludge – Wood – Metal – Paper, cardboard, pins – Other waste Recovery rate Hazardous waste	20,097 t 16,155 t 51 t 1,665 t 1,712 t 514 t 99.7% 130 t
Size of mill area		60 ha

* incl. moisture



Performance against targets in 2018

TARGETS AND MEASURES*	TARGET ACHIEVED?	COMMENTS
1 Water – Continue target from 2017: reduce fresh water use by 100 m ³ /h by water recycling – Stable operation of the effluent treatment plant in terms of effluent parameters	Yes Yes	– Target continued. The plant went into operation and is being optimised. – The plant ran stably in 2018.
2 Energy consumption Energy targets as detailed in the energy management system		
3 Environmental incidents – No Clean Run category 3, 4 and 5 deviations – All Clean Run category 0, 1 and 2 incidents fully reported and addressed (rule of thumb: 5 per month) <ul style="list-style-type: none"> • Successful integration into OneSafety 	No Yes	– One Clean Run category 3 deviation in effluent treatment. – On average 6 Category 0–2 incidents reported per month. – Reporting successfully integrated into the new system.
4 Material efficiency Develop concept to reuse rejects from Nor Service and Nor Finishing in papermaking	No	The envisaged concept was not viable. Alternatives are currently not available.
5 Waste Maintain solids losses at the current low level – Transported amount of effluent treatment residues as dry mass in 2017 as basis – Follow-up in the monthly production report	No	Solids losses increased in line with production. Measures are underway.

Targets for 2019

TARGETS	DEADLINE	DEPARTMENT RESPONSIBLE
1 Water Achieve planned quality and quantity of recycled process water – Fresh water saving: 100 m ³ /h – Conductivity < 100µS/cm	31.12.2019	Production
2 Implementation of energy saving measures – Optimise Optidry Systems of PM 1 – saving of approx. 4,000 MWh/a – Recycle condensation water of Turbair heat exchanger for use as hot water in production – saving of approx. 500 MWh/a – Reduce hot water need for SymSizer pulper PM 4 – saving of approx. 1,000 MWh/a	31.12.2019	Production
3 Environmental incidents – No Clean Run category 3, 4 or 5 deviations – All Clean Run category 0, 1 and 2 incidents fully reported and addressed (rule of thumb: 5/month)	31.12.2019	All departments
4 Material efficiency Maintain 2018 reuse rate of rejects at coating machines taking into account the mill's reorientation*	31.12.2019	Production

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



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 UPM Corporate Environmental and Societal Responsibility Statement 2018 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 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 Environmental Statement 2018 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 Environmental Statement 2018.

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, 30.04.2019


 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.**



www.upm.com

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