

UPM Nordland Papier

Environmental and Societal Responsibility 2017



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 2017 is a supplement to the Corporate Environmental Statement of UPM's pulp and paper mills (available at www.upm.com) and provides mill-specific environmental performance data and trends for the year 2017. The annually updated mill supplements and the UPM Corporate Environmental Statement together form the joint EMAS Statement of UPM Corporation. The next Corporate Environmental Statement and also this supplement will be published in 2019.

UPM leads the forest-based bioindustry into a sustainable, innovation-driven, and exciting future across six business areas: UPM Biorefining, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Paper ENA and UPM Plywood. Our products are made of renewable raw materials and are recyclable. We serve our customers worldwide. The group employs around 19,100 people and its annual sales are approximately EUR 10 billion. UPM shares are listed on NASDAQ OMX Helsinki. UPM – The Biofore Company – www.upm.com

Production capacity	Up to 1.4 million tonnes/annum	
Personnel	Approx. 1,400 (total headcount including apprentices) as at 31.12.2017	
Products	Fine Papers: UPM Fine UPM Preprint Future 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 ISO 9001 – Quality Management System ISO 50001 – Energy Management System OHSAS 18001 – Occupational Health and Safety System PEFC™ Chain of Custody – Forest Stewardship Council FSC® Chain of Custody – Forest Stewardship Council All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility).	
Environmental labels	EU Ecolabel for copying and graphic paper Blue Angel for UPM Office Recycled plus	



The mark of responsible forestry

For FSC certified products please see www.fsc.org



For PEFC certified products please see www.pefc.org



EU Ecolabel : FI/011/001



www.blauer-engel.de/uz72

Review of the year 2017

Occupational health and safety

In the field of occupational safety, the process of continuous improvement, starting from a very good level, is ongoing. 2017 is the year with the lowest number of accidents and lost days in our corporate history. This is the result of focused work with special emphasis on employee involvement.

Environmental performance in 2017 Major environmental project

Following the successful completion in 2015 of our big environmental project to expand our effluent treatment plant, we have already prepared another project. We are planning to use ultra-filtration to further purify a part of our effluents in such a way that they can be reused in production. Construction of the new plant started at the end of 2017.

Significant reduction of specific energy consumption

As in previous years, another focus was on saving energy in the papermaking process. Through many individual measures we were able to further reduce our specific energy consumption by 2% in the period 2015–2017. Our goal is to continue this trend in the next three years.

Sustainable operations

UPM was the only forest and paper company to be listed in the Dow Jones Sustainability Europe Index (DJSI) for 2016–2017. 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 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.

Third-party audits

UPM Nordland Papier's environmentally sound business practices are based on UPM Paper ENA's environmental rules. 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

Klaus Reimann,
General Manager



Barbara T. Köster

Barbara T. Köster,
Manager Environmental Affairs

Responsibility figures 2017

Waste



0%

Process waste to landfill

> 99%

Recovery rate

Water



Average BOD₅ concentration of the past three years reduced by

56%

in comparison with the period 2007–2014

Air



NO_x emissions from the boilers reduced by

18.11%

since 2007

Energy

Specific power consumption reduced by

11.21%

since 2007

Specific gas consumption reduced by

7.24%

since 2007



Safety



Number of workplace accidents with more than one working day lost reduced by

> 90%

since 2007

Workforce



Training events for our employees in 2017:

Approx. **4,000**

Health



Number of times employees made use of our healthcare offerings in 2017:

2,345

Certified fiber



under PEFC/FSC (sustainable forestry):

> 95%

Air



As UPM Nordland Papier uses 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. The plants are now running close to their limits. By carrying out manual calibrations and by operating individual plants in light load mode, it was possible to compensate many disturbances. Nevertheless, there were some exceedances of the NO_x emission limits. This is mainly due to varying weather conditions and fluctuating demand. The further course of action to be taken is current-

ly being coordinated with the factory inspectorate.

Due to the exceedance of the CO emission limit, the burner of the drying section on SM2 was refurbished and the turn dry burner on PM4 completely renewed already.

CO₂ emission levels are calculated in accordance with external requirements and verified for emissions trading by an independent third party.

As required by the authorities, NO_x emissions from the boilers were measured by the TÜV every three years. Following the installation of new measuring systems, the NO_x value has since 2010 been transmitted to the factory inspectorate online.

Waste



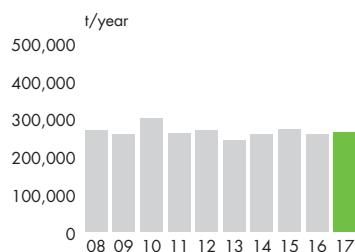
Fibre and paper sludge constitute the largest waste fraction at UPM Nordland Papier. Action is currently underway to reduce their volume.

The waste recovery rate in 2017 exceeded 99%.

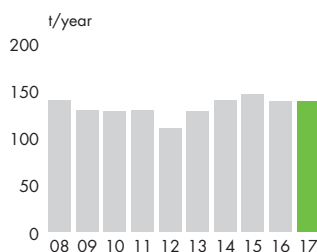
All wastes are forwarded to certified waste management companies for disposal and the generation of "hazardous" wastes is avoided wherever possible.

	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	2.43	Out of service	3.00	1.62	2.04	1.49
NO _x	100	85		72	91	92	88

Fossil carbon dioxide, CO₂



Nitrogen oxides, NO_x



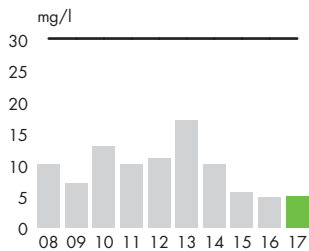
In 2017 the effluent treatment plant ran mostly stably. The expansion of the effluent treatment plant with MBBR reactors resulted in a significant, permanent reduction of COD and BOD₅. The outflow concentration being much lower than the statutory requirements, we committed ourselves to the authorities to meeting much stricter limits for specified parameters.

Nevertheless, there were three Clean Run category 3 deviations in 2017. In all three of the cases, there was 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.

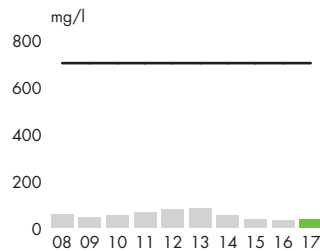
Effluent treatment at UPM Nordland Papier

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

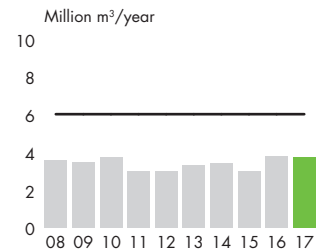
Biological oxygen demand, BOD₅



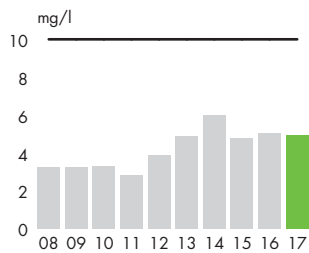
Chemical oxygen demand, COD



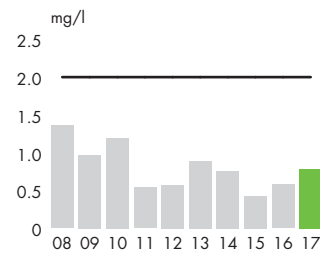
Effluent volume



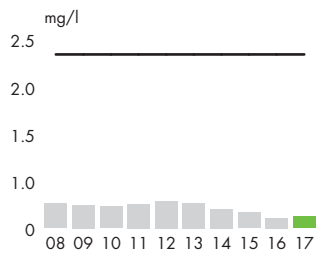
Nitrogen (inorganic), N



Phosphorus, P



Adsorbable organic halogen compounds, AOX



— Limit value
 ■ Annual mean value



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 attractive company pension scheme. In 2017, we opened 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

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 and product safety. The Supplier and Third Party Code is complemented with more detailed rules, guidelines and supplier requirements, such as the list of Restricted Substances for paper and pulp businesses.

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 2017

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 Statement.

Production capacity	Paper	Up to 1,400,000 t
Raw materials and additives	Chemical pulp Pigments Process chemicals Consumables	See UPM Corporate Environmental Statement for more information
Energy	Fossil fuels Purchased power	See UPM Corporate Environmental Statement for more information
Emissions to air	Carbon dioxide, CO ₂ (fossil) Nitrogen oxides, NO _x	263,266 t 138.43 t
Water intake	Process and cooling water	5,210,742 m ³
Discharges to water	Effluent volume Chemical oxygen demand, COD Biological oxygen demand BOD ₅ Phosphorous, P Nitrogen, N (inorganic) Adsorbable organic halogen compounds, AOX	3,725,184 m ³ 142 t 19 t 2.9 t 18 t 0.6 t
Waste*	Total waste volume of which: – Fibre and paper sludge – Wood – Metal – Paper, cardboard, pins – Other waste Recovery rate Hazardous waste	17,533 t 13,715 t 47 t 1,574 t 1,731 t 466 t 99.7% 57 t
Size of mill area		60 ha

* incl. moisture



Performance against targets in 2017

TARGETS AND MEASURES	ACHIEVEMENT	COMMENTS
1 Water – Stable operation of the effluent treatment plant in terms of effluent parameters – Reduce fresh water use by 90 m ³ /h by water recycling	No	– In the course of the year there were three short-term temporary exceedances of individual effluent parameters – Investment decision delayed. Target to be continued in 2018
2 Energy consumption Reduce overall energy consumption by 3.9% in the course of 3 years (2015–2017)	No	Reduction by 2.03%
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)	No Yes	– 3 Clean Rund category 3 deviations (see “water”) – On average 4.3 incidents per month reported
4 Material efficiency Reduce rejects by 0.2% in comparison with 2016	Yes	Reduction by 0.7%
5 Waste Develop concept to reduce specific volume of fibre and paper sludge – Investigate solids losses	Yes	Possibilities for sludge drying investigated, but concept not economically viable.

Targets for 2018

TARGETS	DEADLINE	DEPARTMENT RESPONSIBLE
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	31.12.2018	Production
2 Energy consumption Energy targets as detailed in the energy management system	31.12.2020	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) – Successful integration into OneSafety	31.12.2018	Production Environmental Management Environmental Management
4 Material efficiency Develop concept to reuse rejects from NOR Service and NOR Finishing in papermaking	31.12.2018	Production
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	31.12.2018	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 Environmental Statement 2017 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 updated

Environmental Statement 2017 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 2017.

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, 30.04.2018

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



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