

Environmental performance in 2016



UPM Nordland Papier



Through the renewing of the bio and forest industries, UPM is building a sustainable 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 19,300 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

UPM Nordland Papier

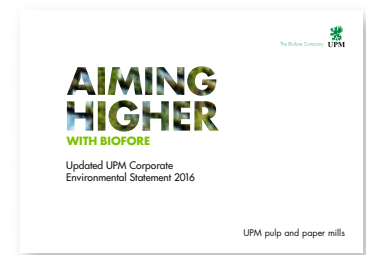
UPM Nordland Papier is located in the Emsland town of Dörpen/Lower Saxony. Founded in 1967, the paper mill ranks today among the biggest fine paper producers worldwide.

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 UPM daughter companies operate on the mill premises. The nortrans Speditions-gesellschaft 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 1.4 million tonnes/annum																
Personnel	Approx. 1,400 (total headcount including apprentices, as at 31 December 2016)																
Products	<table border="0"> <tr> <td>Fine Papers:</td> <td>UPM Finesse</td> </tr> <tr> <td>UPM Fine</td> <td>UPM Digi</td> </tr> <tr> <td>UPM Preprint</td> <td>Yes</td> </tr> <tr> <td><i>Future</i></td> <td></td> </tr> <tr> <td>UPM Office</td> <td>UPM Mail</td> </tr> <tr> <td>UPM Label</td> <td>UPM PrePersonal</td> </tr> <tr> <td>UPM Unique</td> <td>UPM Office Recycled plus</td> </tr> <tr> <td></td> <td>UPM Office Recycled premium</td> </tr> </table>	Fine Papers:	UPM Finesse	UPM Fine	UPM Digi	UPM Preprint	Yes	<i>Future</i>		UPM Office	UPM Mail	UPM Label	UPM PrePersonal	UPM Unique	UPM Office Recycled plus		UPM Office Recycled premium
Fine Papers:	UPM Finesse																
UPM Fine	UPM Digi																
UPM Preprint	Yes																
<i>Future</i>																	
UPM Office	UPM Mail																
UPM Label	UPM PrePersonal																
UPM Unique	UPM Office Recycled plus																
	UPM Office Recycled premium																
Certificates	<p>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®</p> <p><i>All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility).</i></p>																
Environmental labels	EU Ecolabel (EU Flower) for copying and graphic paper Blue Angel for UPM Office Recycled plus																



This Environmental Performance Statement is a supplement to the 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 past year. The supplement and the joint Environmental Statement together form the EMAS Statement. The next joint Environmental Statement and the next Environmental Performance Statement for UPM Nordland Papier will be published in 2018.



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For PEFC products, visit www.pefc.org



EU Ecolabel : FI/011/001



Looking back on 2016

Major environmental project

Our most important environmental project in recent years, the expansion of our effluent treatment plant, which was carried out from 2012 until 2014 to implement many measures for optimisation, was completed in 2015. Not only does our plant now correspond to the current state-of-the art in effluent treatment, it also enables significantly improved wastewater cleansing. A significant reduction was seen in the COD and BOD₅ effluent loads, which remained reliably stable also in 2016.

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 reduce our specific energy consumption by 2.92%. Our target is to consolidate this good result throughout the current year.

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.

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 Paper ENA'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

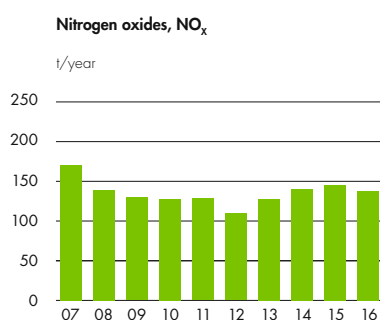
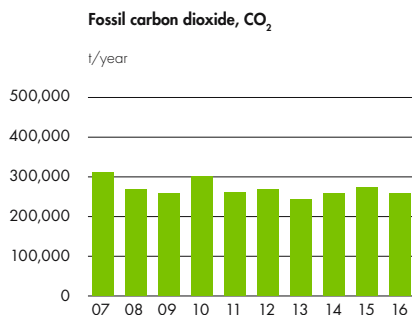
Air

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.

During light load operation, and caused by an operator error in the calibration of the purification plant, there were some slight exceedances of the daily NO_x emission limits from the boilers.

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



Water

In 2016 the effluent treatment plant ran stably. The MBBR reactors installed at the end of 2012 were continuously optimised and are also running stably.

The tables show that there has been a continuous decrease in both COD and BOD₅ since 2013. Moreover we were able to bring down the AOX value by targeted measures in production.

All values measured in the outflow of the treatment plant are well below the legal emissions limits.

Due to the values being much lower than the permit limits, we committed ourselves to the authorities to meeting much stricter limits for specified parameters.

Effluent treatment at UPM Nordland Papier

The site carries out primary sedimentation, biological treatment and secondary sedimentation of its effluents. The biological treatment stage consists of two MBBR reactors and aerobic activation

	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	5.48	1.81	0.98	2.24
NO _x	110	85		78	94	97	86

Social responsibility at Nordland Papier

We consider social responsibility a cornerstone of sustainability.

Employee skills

In the past year we organised about 3,300 training days 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.

Waste

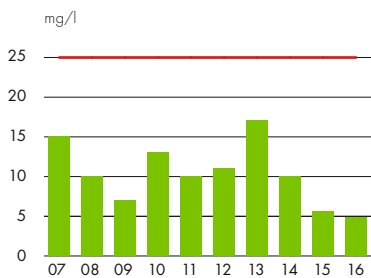
Fibre and paper sludge constitute the largest waste fraction at UPM Nordland Papier. Action is currently underway to reduce their volume.

The waste recovery rate in 2016 exceeded 99%.

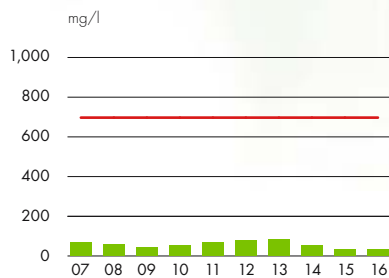
All wastes are forwarded to certified waste management companies for disposal and the generation of "hazardous" wastes is avoided wherever possible.



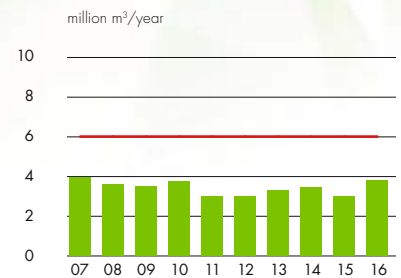
Biological oxygen demand, BOD₅



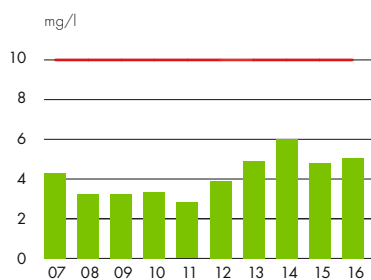
Chemical oxygen demand, COD



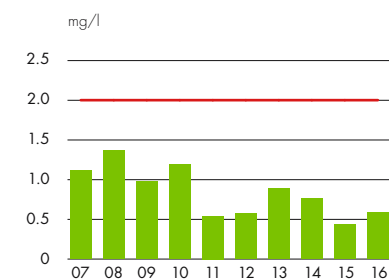
Effluent volume



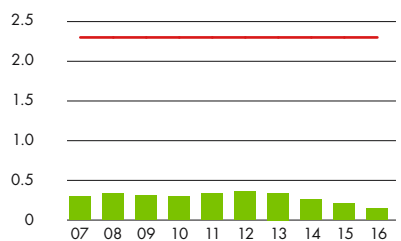
Nitrogen (inorganic), N



Phosphorous, P



Adsorbable organic halogen compounds, AOX



— Limit value*

tanks. The cleaned effluents are filtered before they are discharged into the river Ems.

* Minimum regulatory requirement according to appendix 28 to the wastewater ordinance



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.

Community involvement and responsibility for the environment

We take responsibility towards the region we operate in and society in varied ways. We offer diverse opportunities for vocational training to school leavers,

a learning cooperation with the local secondary school, mill visits for the general public, childrens’ days for our staff and, last but not least, an attractive company pension scheme.

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, corporate health

management, a mill sports team and the “nopaFit” health room, where medical check-ups are conducted, are part of our concept.



Environmental parameters 2016

Data on production volumes and raw material and energy consumption as well as specific indicators per tonne of paper are given as a total figure. They can be found in the joint Environmental Statement of UPM's paper and pulp mills.

Production capacity	Paper	Up to 1,400,000 t
Raw materials and additives	Pulp Pigments Process chemicals Consumables	See UPM Corporate Environmental Statement for more information
Energy	Fossil fuels External power supply	See UPM Corporate Environmental Statement for more information
Emissions to air	Fossil carbon dioxide, CO ₂ Nitrogen oxides, NO _x	257,847 t 137.7 t
Water intake	Process and cooling water	5,271,771 m ³
Discharges to water	Effluent volume Chemical oxygen demand, COD Biological oxygen demand, BOD ₅ Phosphorous, P Nitrogen (inorganic), N Adsorbable organic halogen compounds, AOX	3,771,204 m ³ 117 t 18 t 2.2 t 19 t 0.5 t
Waste*	Total waste volume of which: – Fibre and paper sludge – Wood – Metals – Paper, cardboard, reel pins – Other waste Recovery rate Hazardous waste	17,096 t 13,158 t 44 t 1,494 t 1,948 t 453 t 99.7% 87 t
Size of mill area		60 ha



* Incl. moisture


Performance against targets in 2016

Targets	Target achieved?	Comments
Water		
- Plan new investment to improve effluent quality (bypass model incl. offsetting of effluent charges)	Yes	- Investment proposal awaiting approval
- Stabilise specific emissions loads in outflow from treatment plant on 2015 levels	Yes	- Emissions loads on 2015 levels
Reduce energy consumption		
- Reduce specific gas consumption by 2.6% in comparison with 2015	Yes	- Through targeted modifications and optimizations, specific gas consumption and power consumption decreased by 3.23 and 2.09% respectively.
- Reduce specific power consumption by 3.0% in comparison with 2015	No	- SM2 temporarily operated on gas instead of power
Environmental incidents		
- No incidents falling into the Clean Run categories 3, 4 or 5	Yes	
- All Clean Run category 0, 1 and 2 incidents fully reported and addressed (rule of thumb: 5 per month)	Yes	
Material efficiency		
- Reduce rejects by 0.5% in comparison with 2015	No	- The 2015 value was maintained. A mill-wide reduction was not achieved due to strategic measures taken.
Waste		
Develop concept to reduce specific volume of fibre and paper sludge	Yes	- Testing has shown all technologically viable solutions to be uneconomical. We will continue working towards our objective by investigating alternative options.
- Develop concept for sludge drying		

Current targets

Targets and measures*	Deadline	Department responsible
Water		
- Stable operation of the effluent plant in terms of effluent parameters	31.12.2017	Production
- Reduce fresh water use by 90 m ³ /h by water recycling	31.12.2017	Production
Energy consumption		
- Reduce overall energy consumption by 3.9% in the course of 3 years (2015-2017)	31.12.2017	Production, Converting, Technical department
Environmental incidents		
- No incidents falling into the Clean Run categories 3, 4 or 5	31.12.2017	All
- All Clean-Run category 0, 1 and 2 incidents fully reported and addressed (rule of thumb: 5 per month)	31.12.2017	All/Environmental Management
Material efficiency		
Reduce rejects by 0.2% in comparison with 2016	31.12.2017	Production/Converting
Waste		
Develop concept to reduce specific volume of fibre and paper sludge	31.12.2017	Production
- Investigate solids losses		

* The measures taken to achieve the targets will be defined and followed up as part of the mill's Simple process.



EMAS
Verified environmental management
REG.NO. FI - 000058

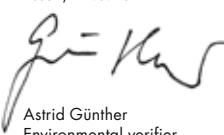
Environmental verifier's declaration on verification and validation activities

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 Environmental Statement 2012 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).

Papier GmbH, within the scope mentioned in the updated Environmental Statement 2016.

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, 24.3.2017


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

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 2016 of Nordland Papier GmbH, reflect a reliable, credible and correct image of all the activities of Nordland

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Nordland Papier GmbH

Nordlandallee 1
26892 Dörpen
Germany
Tel. +49 4963 401-00
Fax +49 4963 4545

For further information, please contact:

Klaus Reimann
Director Produktion Unit WFU and
Environmental Management Representative
Tel. +49 4963 401- 2117

Barbara T. Köster
Manager Environmental Affairs
Tel. +49 4963 401-1608

E-mail: info.nordland@upm.com