

# ENVIRONMENTAL performance in 2014



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 Paper Asia, UPM Paper Europe and North America and UPM Plywood. Our products are made of renewable raw materials and are recyclable. We serve our customers worldwide. The group employs around 20,000 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](http://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 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 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.

<b>Production capacity</b>	Up to 1.4 million tonnes/annum																
<b>Personnel</b>	Approx. 1,400 (total headcount including apprentices, as at 31 December 2014)																
<b>Products</b>	<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>Future</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	Future		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																
Future																	
UPM Office	UPM Mail																
UPM Label	UPM PrePersonal																
UPM Unique	UPM Office Recycled plus																
	UPM Office Recycled premium																
<b>Certificates</b>	<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 <a href="http://www.upm.com/responsibility">www.upm.com/responsibility</a>).</i></p>																
<b>Environmental labels</b>	EU Ecolabel (EU Flower) for copying and graphic paper Blue Angel for UPM Office Recycled plus																



UPM Nordland Papier Environmental Performance in 2014 is a supplement to the Corporate Environmental Statement of UPM's pulp and paper mills (available at [www.upm.com](http://www.upm.com)) and provides mill-specific environmental performance data and trends for the year 2014. 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 2016.



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# Environmental year 2014

Our most important environmental project, the expansion of our effluent treatment plant, was continued in 2013 and we went on working intensively on optimising it in 2014. Not only does our plant now correspond to the current state-of-the art in effluent treatment, it also enables significantly improved wastewater cleansing.

As in previous years, another focus was on saving energy in the papermaking process. Here too, we were able to build on previous successes by implementing a large number of ideas from the production floor and various improvements to make further energy savings.

We continue to be committed to continuous improvement in everything we do. To this effect, we have set ourselves targets for 2014 and beyond, which will be detailed in this Environmental Statement. As part of the group-wide "Clean Run" project, which is aimed at further improving UPMs environmental performance, any environmental incidents at UPM Nordland Papier are being classified into the categories defined at group level and dealt with accordingly. In comparison with the previous year we made a large step towards the target we set ourselves, i.e. to prevent any category

3–5 incidents. However, there were a few incidents we had to deal with.

Comprehensive training was given to our workforce in 2014 to make them aware of how important it is to also report minor incidents without environmental impacts. By taking a more proactive approach than until now we aim to reach our target of "preventing any incidents with environmental impacts".

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"). The successful certification to ISO 50001 in 2012 strengthened our resolve to also in the future have our environmental performance third-party-audited.



Klaus Reimann,  
General Manager



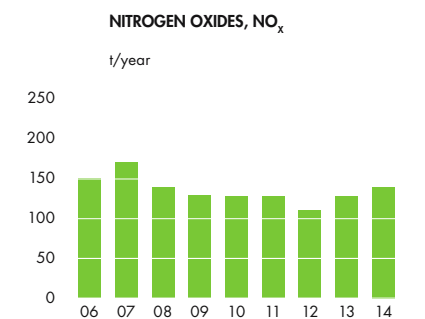
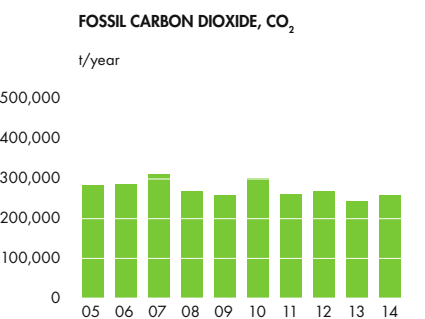
Barbara T. Köster,  
Manager Environmental Affairs

# Air

In the last years, there has been a slight downward trend in CO<sub>2</sub> emissions. This is due to a continuous reduction of specific heat consumption and a lower production volume.

As required by the authorities, NO<sub>x</sub> emissions from the boilers are measured by the TÜV every three years. Following the installation of new measuring systems, the NO<sub>x</sub> value has since 2010 been transmitted by the measuring facility to the factory inspectorate online.

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

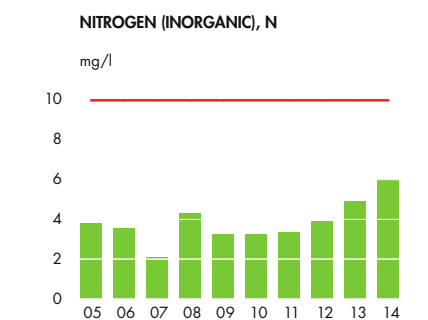
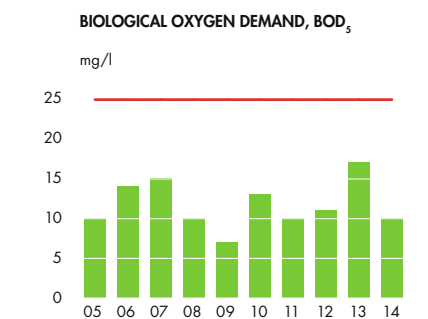


	Limit value (mg/m <sup>3</sup> )	Mean values measured (mg/m <sup>3</sup> )					
		Boiler 1	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Boiler 7
CO	50	2.9	Out of service	5.0	2.6	2.9	1.3
NO <sub>x</sub>	110	78.9		83.9	100	79	88

# Water

Before the expansion of the effluent treatment plant started, the high nutrient load present in the wastewater inflow often resulted in an overgrowth of filamentous bacteria. Working closely with the authorities, a number of measures were implemented to deal with this problem. Since the commissioning of the new reactors at the end of 2012, there have no longer been any problems with filamentous bacteria and the capacity of the treatment plant is larger than the organic load of the wastewater inflow.

During the commissioning phase in 2013, some of the values measured in the outflow of the treatment plant



— Limit value\*

# 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 2014 exceeded 99%.

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

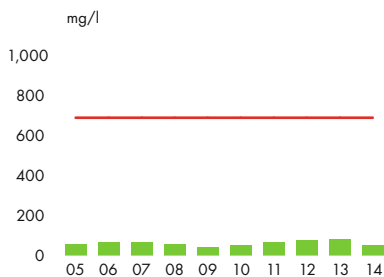
exceeded the permit limits. We then made some improvements which allowed us, from the middle of 2013 onwards, to bring the average values to a much lower level than in the previous year. In 2014 the plant ran much more stably. Both the average COD and BOD<sub>5</sub> sank significantly. By specific measures in the field of biocide treatment in production we were able to also reduce the AOX value.

and an aerobic sludge treatment. Before leaving the mill area to the river Ems the water passes a filter station.

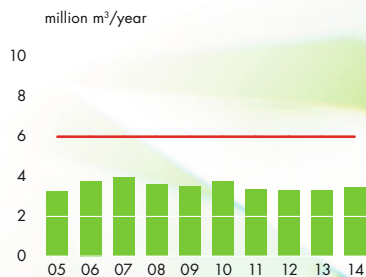
## Effluent treatment at UPM Nordland Papier

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

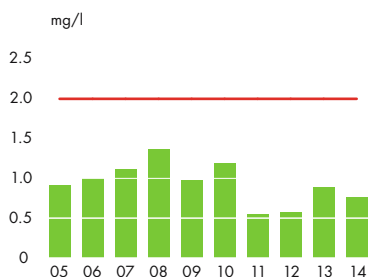
**CHEMICAL OXYGEN DEMAND, COD**



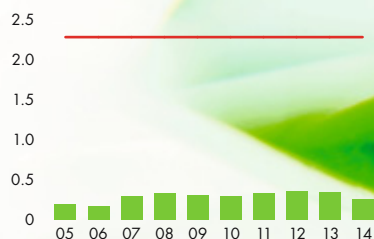
**EFFLUENT VOLUME**



**PHOSPHOROUS, P**



**ADSORBABLE ORGANIC HALOGEN COMPOUNDS, AOX**



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



# Environmental parameters 2014

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.

<b>Production capacity</b>	Paper	Up to 1,400,000 t
<b>Raw materials and additives</b>	Pulp Pigments Process chemicals Consumables	See UPM Corporate Environmental Statement for more information
<b>Energy</b>	Fossil fuels External power supply	See UPM Corporate Environmental Statement for more information
<b>Emissions to air</b>	Fossil carbon dioxide, CO <sub>2</sub> Nitrogen oxides, NO <sub>x</sub>	258,470 t 139.37 t
<b>Water intake</b>	Process and cooling water	4,852,683 m <sup>3</sup>
<b>Discharges to water</b>	Effluent volume Chemical oxygen demand, COD Biological oxygen demand, BOD <sub>5</sub> Phosphorous, P Nitrogen (inorganic), N Adsorbable organic halogen compounds, AOX	3,429,010 m <sup>3</sup> 185 t 34 t 2.6 t 21 t 0.9 t
<b>Waste*</b>	Total waste volume of which: – Fibre and paper sludge – Other waste (industrial waste) Recovery rate Hazardous waste	16,957.42 t 12,449.25 t 4,442.23 t 99.85% 65.94 t
<b>Size of mill area</b>		60 ha



\* Incl. moisture

# Performance against targets in 2014

TARGETS	TARGET ACHIEVED?	COMMENTS
<b>Water</b> Implement project to improve effluent quality	Yes	Effluent turbidity stabilised on a low level.
<b>Reduce energy consumption</b> – Reduce specific gas consumption by 2.29% in comparison with 2011  – Reduce specific power consumption by 10.18% in comparison with 2011	No  Yes	– Specific gas consumption reduced by 0.62%, consumption increased on paper machines 1 and 3, drying on coater 2 switched from power to gas. – Specific power consumption reduced by 15.97%. Desired level of full-load hours reached, savings achieved mainly on coater 2.
<b>Waste</b> Improve solids content of effluent treatment sludge	Yes	Solids content increased by approx 2% through use of liquid polymer.
<b>Environmental incidents</b> No incidents falling into the Clean Run categories 3, 4 or 5	No	– Diesel fuel leaked into the harbour basin following a fire on a forklift truck (category 4). – Two deviations from the permit limits measured by UPM Nordland Papier in the effluent treatment plant (category 3).

## Current targets

TARGETS AND MEASURES*	DEADLINE	DEPARTMENT RESPONSIBLE
<b>Water</b> – Develop a project proposal for offsetting sewage charges – Continue work to further stabilise the effluent treatment plant's operation – Develop and implement concept for short downtimes/mill standstills	06/2015 12/2015 09/2015	Production units
<b>Reduce energy consumption</b> – Reduce specific gas consumption by 1.42% in comparison with 2014 – Reduce specific power consumption by 1.19% in comparison with 2014	31.12.2015	Production units/Converting/Technical department
<b>Waste</b> Implement project to improve solids content of effluent treatment sludge	03/2015	Production units/Process Development
<b>Environmental incidents</b> – No incidents falling into the Clean Run categories 3, 4 or 5 – Step-up reporting of category 0, 1 and 2 incidents	31.12.2015	All

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



### 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 26892, Dörpen, Nordlandallee 1, Germany, as indicated in the Environmental Statement 2014 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 2014 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 2014.

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, 28 April 2015

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

# MORE WITH BIOFORE



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