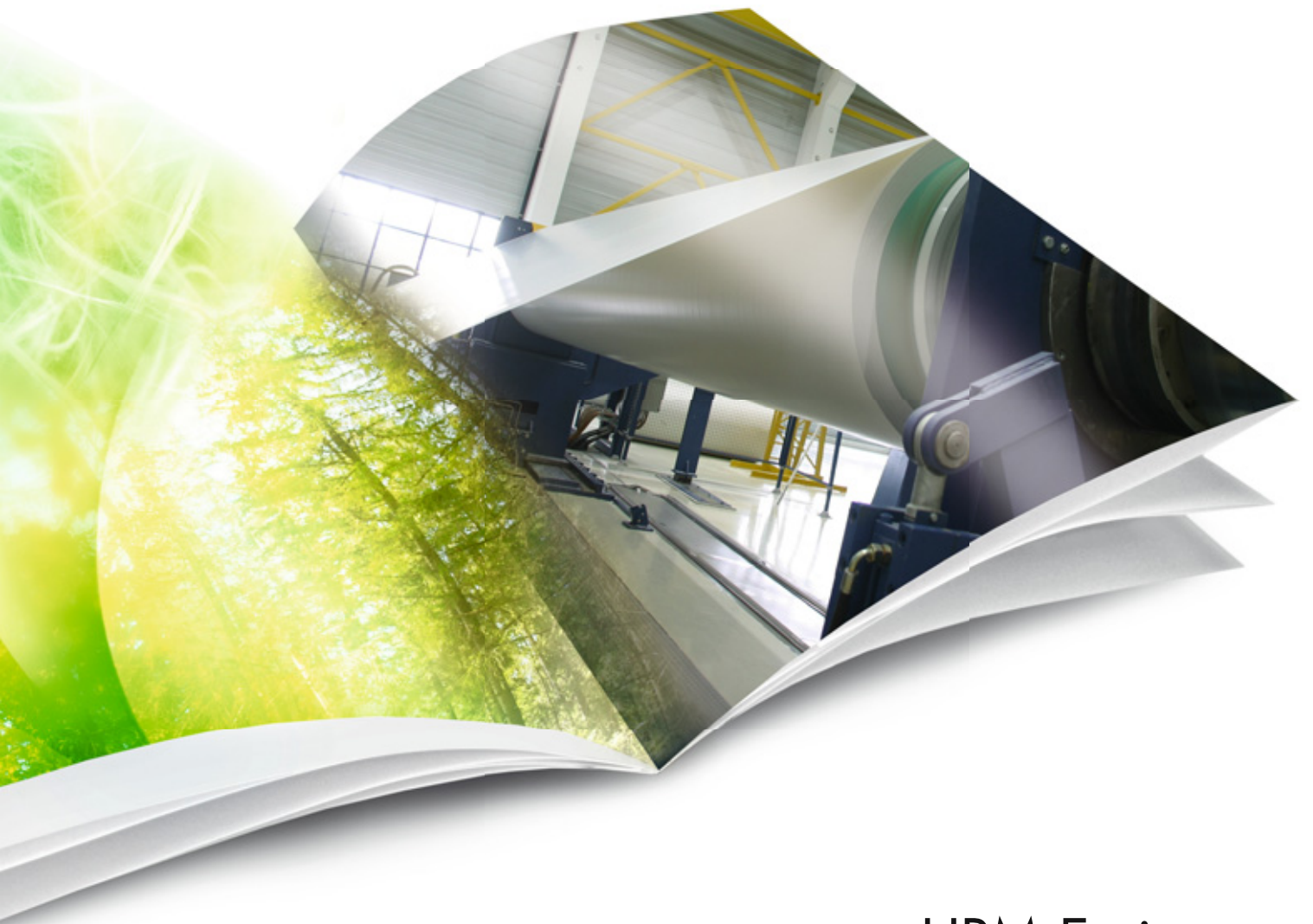


ENVIRONMENTAL performance in 2015



UPM Ettringen



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 19,600 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 Ettringen

UPM Ettringen is sited on the small Wertach river, on the outskirts of Ettringen in the Unterallgäu region in Bavaria.

Originally founded in 1897 as a mechanical pulp mill, the site has been producing paper since 1910.

The mill in Ettringen started using recovered paper as a fibre source as far back as 1963. In the 1990s, the mill set a new quality standard in the manufacture of magazine papers by developing online-calendered rotogravure and offset papers with a high recycled content.

Today, the site produces magazine papers and newsprint on one paper machine with an annual capacity of up to 280,000 tonnes.

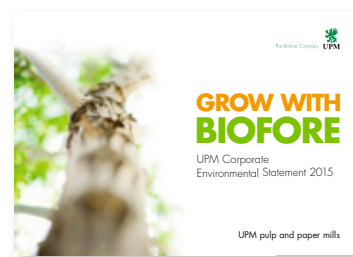
Recovered paper is in terms of volume the most important raw material at the site. In addition to that, the mill produces and uses groundwood pulp from forest thinnings. Other raw materials used include pigments that are added as fillers to improve the printing quality of the paper.

The steam and part of the electricity for papermaking are generated in an on-site power plant, with a small share of the fuel needs provided by light fuel oil and 99% by natural gas.

Fresh water is taken from the Wertach and from wells.

Wastewater is cleansed in the on-site effluent treatment plant.

| | |
|-----------------------------|--|
| Production capacity | Up to 280,000 tonnes/year |
| Personnel | About 285 (total heads as at 31 December 2015) |
| Products | Printing papers UPM Eco H UPM Eco G UPM Eco Prime UPM News |
| 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® <i>All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility)</i> |
| Environmental labels | EU Ecolabel (EU Flower) for all paper grades Blue Angel (RAL-UZ 14 or 72) for all paper grades |



UPM Ettringen Environmental Performance in 2015 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 2015. 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 2017.



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Environmental year 2015

The papermaking processes at the UPM Ettringen site have been continuously optimised through the years in order to, among other things, minimise their impacts on the environment. Since 2004 we have been working with an environmental management system that is certified and validated annually under ISO 14001 and the EU Eco-Management and Audit Scheme (EMAS).

As one of the first paper recyclers in Germany, the UPM Ettringen mill has over 40 years of experience in the fields of sustainability and circular economy. These two concepts drive our corporate policies in a comprehensive sense. They require ecological, economic and social aspects to be given equal consideration.

We support sustainable forestry in our virgin fibre use by working according to the PEFC and FSC standards.

In 2010, our energy management system gained certification. Also last year we successfully implemented several projects to reduce energy consumption. Thus the specific energy consumption per tonne of paper was reduced by 8% in comparison with 2014.

Lower energy consumption reduces airborne emissions. At the UPM Ettringen mill, they are well below the statutory limits.

As a paper producer with a high level of water consumption, water protection is a matter of particular concern to us. The effluent treatment plant ran consistently, combining high treatment efficiency with low energy consumption.

The recycling of wastepaper is the main source of residue at the mill. Over 99% of the remaining residue is recovered.

There were no complaints from the neighbourhood in 2015.

Since the spring of 2015, Aviretta has been producing packaging paper on the PM4 paper machine. UPM supplies them

with fresh water, demineralised water and steam. We also handle pre-treated wastewater and provide finished goods logistics.

Actions are ongoing to increase awareness of workplace safety culture. The focus in 2015 was on safety walks and on identifying risks in work preparation.

In the field of health protection, the planned actions, like health days, back therapy training and yoga as well as a pilot project concerning job analysis and a health circle were implemented in one department.



A blue ink signature of Caius Murtola, written in a cursive style.

Caius Murtola,
General Manager



A blue ink signature of Martin Heinrich, written in a cursive style.

Martin Heinrich, Senior Specialist
Environment & Management Systems

Air

Energy generation is the main source of airborne emissions from paper mills. Annual loads declined further thanks to

increased energy efficiency and improvements to the gas boilers.

EMISSIONS FROM THE POWER PLANT

Continuous measurement

| | Limit value (mg/Nm ³) | Mean value of measurements (mg/Nm ³) | | |
|----------------------------------|-----------------------------------|--|--------------|------------|
| | | Boiler 3 | Boiler 8 + 9 | Boiler 10* |
| Carbon monoxide, CO | 50 | 1,3 | 4,9 | 0,3 |
| Nitrogen oxides, NO _x | 150 | 84 | 91 | 67 |

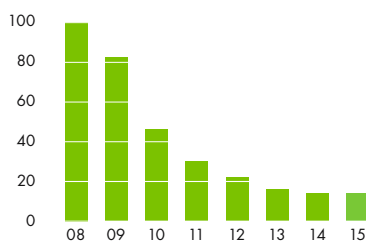
* Emissions measurements from boiler no. 10: 11 June–31 December 2015

Due to the low thermal rated input, no emissions measurements were necessary on boiler number 10 until now. Following the conversion to co-firing with biogas, we have voluntarily installed an emissions measuring system.

The following graphs show the specific air emissions of UPM Ettringen as percentage related to the year 2008.

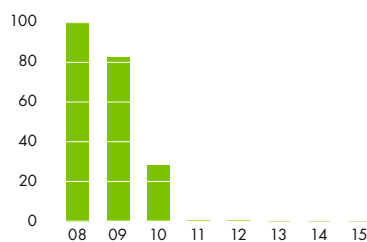
PARTICULATE MATTER

Specific particulate matter emissions per tonne of paper in % in comparison with 2008



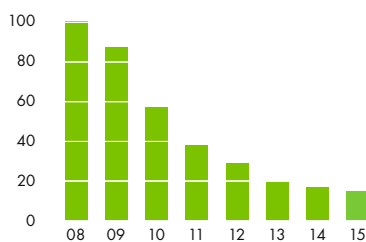
SULPHUR DIOXIDE, SO₂

Specific SO₂ emissions per tonne of paper in % in comparison with 2008



NITROGEN OXIDES, NO_x

Specific NO_x emissions per tonne of paper in % in comparison with 2008



Water

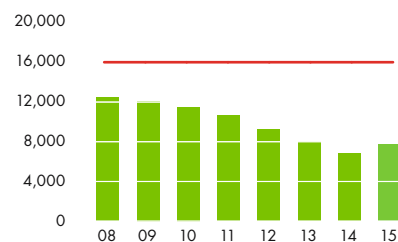
Water is indispensable for papermaking. The water we use is recycled within the process several times, before only a fraction of it is discharged from the circuit as wastewater.

In the on-site treatment plant, the effluents are first cleansed in a chemical-mechanical and then in a biological treatment stage. If necessary, they are then treated with ozone to break not readily degradable substances (such as the lignin in the wood) into simpler forms which can subsequently be removed by biofiltration.

Since April of 2015, the pre-treated effluents from Aviretta have also been purified in the effluent treatment plant, causing an increase in effluent volume and COD load.

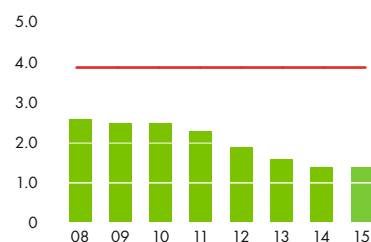
EFFLUENT VOLUME

m³/day



CHEMICAL OXYGEN DEMAND, COD

t/day

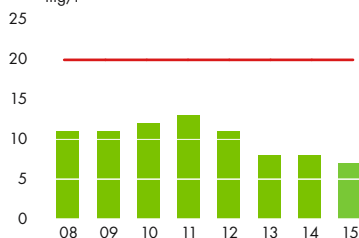


— Limit value ■ Annual average

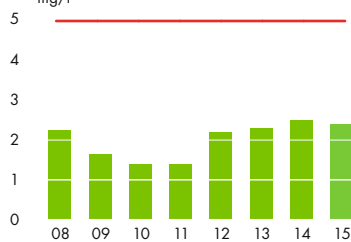
The mean BOD₅, nitrogen and phosphorus loads decreased in comparison with the previous year.

The following graphs with effluent volumes and effluent load refer to the total effluent volume from the treatment plant.

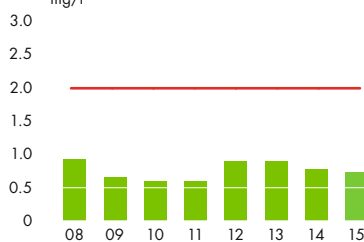
BIOLOGICAL OXYGEN DEMAND, BOD₅
Annual mean concentration in comparison with the limit value
mg/l



NITROGEN (INORGANIC), N
Annual mean concentration in comparison with the limit value
mg/l



PHOSPHORUS, P (TOTAL LOAD)
Annual mean concentration in comparison with the limit value
mg/l



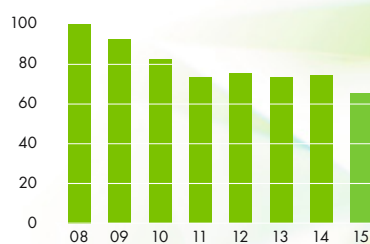
Waste

The deinking of wastepaper is the main source of residue at UPM Ettringen. The volume of specific residue (incl. moisture) from normal production operations decreased slightly in comparison with the previous year.

In 2015, 99.9% of all production waste was recovered.

There is only a small amount of hazardous wastes – such as oil-containing residues – which are disposed of in accordance with legal regulations.

SPECIFIC VOLUME OF WASTE
(development kg/tonne of paper in %)



Landfill

The former landfill site on the mill premises was surface-sealed in 2004 and recultivated. Monitoring and evaluation during the after-closure period did not show any evidence of adverse impacts on groundwater.

Environmental parameters 2015

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. The following values represent the environmental data of UPM Ettringen.

| | | |
|------------------------------------|---|---|
| Production capacity | Paper | Up to 280,000 t (1 paper machine) |
| Raw materials and additives | Recovered paper Round wood Fillers Processing chemicals Operating supplies | See UPM Corporate Environmental Statement for more information |
| Energy | Fossil fuels Purchased power Hydropower | 100% See UPM Corporate Environmental Statement for more information |
| Emissions to air | Carbon dioxide, CO ₂ (fossil) Nitrogen oxides, NO _x Sulphur dioxide, SO ₂ Particulate matter Carbon monoxide, CO | 53,560 t 23.6 t 0.3 t 0.8 t 1.1 t |
| Water intake | Process-, cooling- and drinking-water | 2,789,473 m ³ |
| Discharges to water | Effluent volume Chemical oxygen demand, COD Biological oxygen demand, BOD ₅ Phosphorus, P (total) Nitrogen (inorganic), N Adsorbable organic halogen compounds, AOX | 2,199,519 m ³ 437 t 18 t 1.6 t 5.2 t 0.17 t |
| Waste* | Total volume (without hazardous waste) of which – deinking, fibre and biological sludge – coarse deinking residue – bark and wood – metal waste – other – hazardous waste Recovery rate | 88,181 t 78,829 t 4,045 t 4,204 t 296 t 807 t 46 t 99.9% |
| Size of mill area | Built on or sealed | 33 ha |



Internal and external laboratory analyses as well as lots of online measurements help control and minimise our environmental impacts.

* incl. moisture

Performance against targets in 2015

| TARGET | TARGET ACHIEVED? |
|--|---|
| Water Adjust operating permit and further optimise operation of the effluent plant to match the two-paper-machines-operation | Adjusted operating permit was applied for on 31 August 2015. The approval of the regulatory authorities is still outstanding. |
| Energy Convert boiler 10 to use biogas as an additional fuel (to save natural gas) Reduce specific energy consumption for groundwood pulping by 10% in comparison with 2014 through optimised operation | Conversion completed. Operation with biogas not started yet. Yes, specific energy consumption reduced by 25%. |
| Airborne emissions Further reduce NO _x emissions (concentration at boiler 8) to achieve an annual mean value of 100 mg/Nm ³ | Partly; NO _x concentration at boiler no. 8 reduced by a further 3% to 101.6 mg/Nm ³ |
| Waste Reduce volume of specific deinking residues by 0.5% in comparison with 2014 | Yes, volume of specific deinking residues reduced by 1.9%. |

Current targets

| TARGETS AND MEASURES | DEADLINE | DEPARTMENT RESPONSIBLE |
|---|------------|----------------------------------|
| Water Maintain voluntarily reduced (by 20%) COD load discharged from the treatment plant (control value) to the Wertach river | 31.12.2016 | Manager Effluent Treatment Plant |
| Energy Reduce specific steam and power consumption by 2.5% in comparison with the previous year | 31.12.2016 | Manager Power Plant |
| Waste Improve waste separation | 31.12.2016 | Waste Management Representative |
| Airborne emissions Offer bicycle leasing scheme for employees | 31.12.2016 | Health Management |
| Waste Increase overall efficiency of the paper machine (target to be defined internally within the framework of the target setting process) | 31.12.2016 | Manager Production |

Environmental verifier's declaration on verification and validation activities



Environmental verifier, Dr. Detlef Nehm (DE-V-0223), acting for TÜV NORD CERT Umweltgutachter GmbH, licensed for the scope NACE Code 17.12 (papermaking), declares to have verified whether UPM Ettringen (the site Gebr. Lang GmbH Papierfabrik), Fabrikstrasse 4, 86833 Ettringen, Germany, as indicated in the Environmental Statement 2015 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 2015 of UPM Ettringen (the site Gebr. Lang GmbH Papierfabrik) reflect a

reliable, credible and correct image of all the activities of UPM Ettringen (the site Gebr. Lang GmbH Papierfabrik) within the scope mentioned in the Environmental Statement 2015.

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, 05.04.2016

Dr. Detlef Nehm
 Environmental verifier
 DE-V-0223
 TÜV NORD CERT Umweltgutachter GmbH

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