

KOTKAMILLS

Environmental Year 2011





Kotkamills is a Finnish forest products company with production sites in Finland and Malaysia. We employ more than 500 people around the globe. Kotkamills specialises in the production of laminating papers and products converted from them, publication paper and wood products.

Our brands include Absorbex®, Imprex®, Solaris and Wood.

Taking the environment into consideration and minimising environmental impacts are a natural part of all our operations.

We do our part
to protect water systems.



Dear reader



The environmental year 2011 was exceptionally eventful for us at Kotkamills. Following an environmental impact assessment and permit process, we were able to commission a new recycled fibre line at our mill in April. The start-up of a new production line is a rare occasion to celebrate, and this particular investment was also positive in terms of the environment. Our new ecological product, Absorbex® Eco, includes pulp processed from recycled corrugated board boxes collected from local communities.

As a new project, we have launched a study on the environmental impacts of wind power. In the public process to assess environmental impacts, we wish to hear the opinions of the surrounding community concerning the construction of wind turbines in the mill area. The study will be completed in autumn 2012 and a decision will be made thereafter. Wind turbines would nicely complement the renewable energy in our production palette.

In addition, the environmental permit for our mills in Kotka was due to be reviewed last year. When we obtained our

previous permit, we were the first integrated mill in the forest industry to apply the new environmental legislation. As a result, we are now a step ahead in renewing the permit as the deadline approaches.

In terms of emissions, 2011 was a rather successful environmental year. Although we did not achieve all of the challenging targets we had set for ourselves, we made good progress. We met the conditions of our environmental permit.

Our products have long been renewable and recyclable, and at the end of their life cycle, they can be burned. From this year on, we are also actively engaged in recycling. We make efficient use of raw materials: logs produce not just saleable timber, but also sawdust that is used in the manufacture of Absorbex and Imprex products, and sawmill chips, which are used in the manufacture of Solaris magazine paper. Bark is used as energy.

This publication updates our environmental results for 2011; further background information and other information can be found on our website.

Tuija Suur-Hamari
President
Kotkamills Oy

EIA procedure for wind power

Kotkamills Oy has begun planning the construction of four wind turbines with a power output of 2–3 MW in its mill area on the Kotka island. Before making an investment decision we want to hear the opinions of the surrounding community. The project to assess the environmental impacts of wind power began in November 2011. Representatives of the town's residents as well as local nature and environmental organisations, the Transport Agency, the Regional Council of Kymenlaakso and the Museum of Kymenlaakso were all invited to join the project.

Once the assessment programme has been approved,

the real work will begin, i.e. compiling the assessment report. The report will be submitted for an opinion to committees of the City of Kotka and the town board in late summer 2012. Events for the public will also be held to present the wind power plans and to gather public opinion on the project. The assessment report is to be prepared in the autumn. Final decisions concerning the construction of the turbines can be made once the environmental impacts have been analysed and other matters, such as land-use planning solutions and a defence forces radar study, have been sorted out.



Conceptual image of the wind turbines from the Haukkavuori observation tower.



A protected alder grove in Kotka's city centre.

Certified forests

ABOUT 10 PER CENT OF THE TOTAL AREA of the world's forests are certified. Some 95 per cent of the commercially managed forests in Finland are certified under the national forest certification system, the Programme for the Endorsement of Forest Certification Schemes. Only a small percentage (< 1%) of forests in Finland are FSC certified. In 2011, Kotkamills used 193,488 t of PEFC-certified and 12,008 t of FSC-certified wood raw material at its mills in Kotka.



We set five environmental targets for 2011.

HOW DID WE SUCCEED?

1. Review of environmental permit at the mill in Kotka. The application for an environmental permit review was submitted to the environmental authorities on time. A decision is expected in spring 2012.

2. Reducing effluent. The introduction of recycled fibre at the start of 2011 and the removal of process water from the chemical cycle to ensure quality management meant water consumption slightly exceeded the targets, both in absolute consumption and in specific consumption.

3. Finding a permanent method for processing sludge from the treatment plant. Several sludge processing methods have been tested out. Sludge processing technology has developed considerably

in recent years and the use of sludge from treatment plants is highly suited for the latest technologies, for example in the manufacture of biogas and biofuels and as a soil improvement agent. The work to find a permanent processing method continues.

4. Keeping landfill waste under 1,500 t/a. The final amount of landfill waste remained low, as soda precipitate was taken to recovery also in 2011.

5. Energy efficiency to be improved by two per cent compared with the 2010 level. The two per cent savings target for specific energy consumption was not realised and the mill remained at the 2010 level. Kotkamills has joined and is implementing an energy efficiency system in 2012.

Our mills are certified according to the ISO 9001 quality system, the ISO 14001 environmental management system, the OHSAS 18001 occupational health and safety management system and the FSC and PEFC Chain of Custody systems.

Environmental permit and permit conditions

Kotka mill's environmental activities are guided by the environmental permit issued by the Eastern Finland Environmental Permit Authority in 2003. The permit was up for review in 2011. The application for review was submitted on time and a decision is expected in spring 2012.

Main permit conditions

AIRBORNE EMISSIONS	
Total nitrogen from pulp mill (NO ₂)	150 t/a
Total sulphur from pulp mill (SO ₂)	200 t/a
Nitrogen oxide from combi boiler	80 mg/MJ, 100 mg/nm ³

DISCHARGES INTO WATER		
	monthly average	annual average
BOD7	2,500 kg O ₂ /d	2,000 kg O ₂ /d
Phosphorus	30 kg P/d	20 kg P/d
CODCr	10,000 kg O ₂ /d	7,000 kg O ₂ /d
Nitrogen	200 kg N/d	160 kg N/d

Environmental figures

Emissions figures are presented for the Kotka mill, as Tainionkoski's PM7 operates within Stora Enso's Imatra Mills and Imatra's environmental permit; thus, PM7's emissions are difficult to specify reliably.

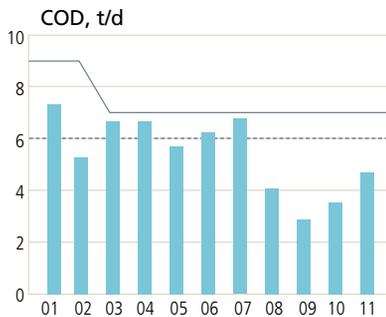
EFFLUENT DISCHARGES	
Effluent volume	9.4 mill. m ³
Suspended solids	475 t
BOD	146 t
CODa	1,679 t
Nitrogen	46 t
Phosphorus	5 t

WASTE	
Recovered	27,560 t
Landfill	891 t
Hazardous waste	217 t

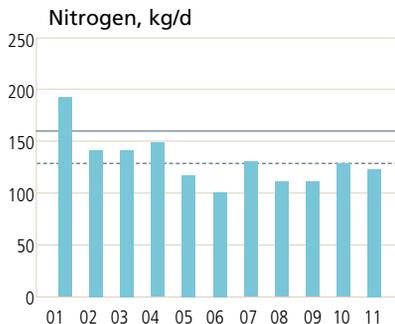
AIRBORNE EMISSIONS	
Carbon dioxide, fossil	249,796 t
Carbon dioxide, bio	257,568 t
Sulphur dioxide	102 t
Reduced sulphur compounds	7 t
Nitrogen compounds as NO _x	382 t
Dust	49 t

Effluent discharges

Emissions with a permit limit only concern the Kotka mill.



The increase in COD (chemical oxygen demand) is due to the increase in production volumes. The emissions are, however, clearly within the permit conditions.



Nutrient discharges were well under control in 2011. Start-ups and shutdowns, however, present challenges for the effluent treatment plant. In December 2011, there was a temporary disturbance at the effluent treatment plant in connection with a shutdown, causing nitrogen and phosphorus to slightly exceed the monthly permit condition. The annual permit condition, however, was not exceeded.

Annual production includes Tainionkoski's and the Malaysian subsidiary's volumes.

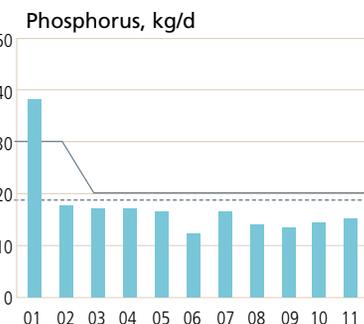
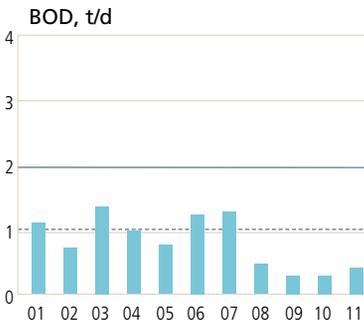
RAW MATERIALS	
Logs	382,000 m ³
Chips	192,000 m ³
Sawdust	562,000 m ³
Purchased pulp	25,000 t
Recycled fibre	19,000 t
Chemicals	110,000 t
Raw water	14 mill. m ³

FUELS	
Natural gas	4,610 TJ
Biofuels	2,360 TJ

ANNUAL PRODUCTION	
Paper	291,000 t
Imprex®production	25,000 t
Sawn goods	181,000 m ³

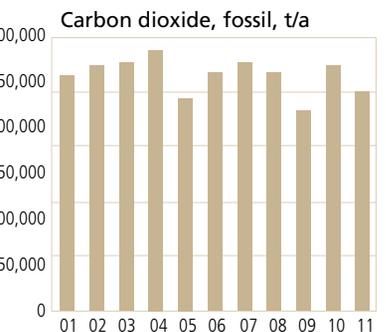
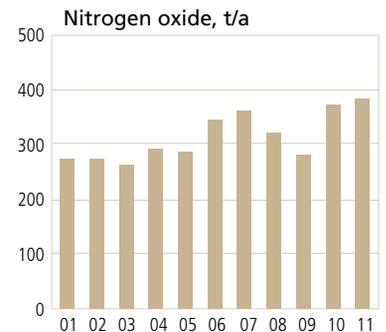
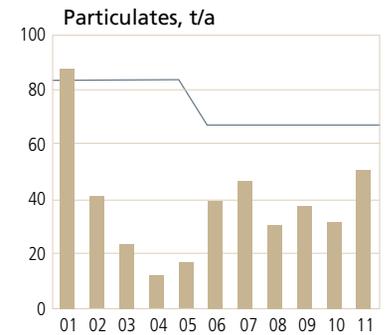
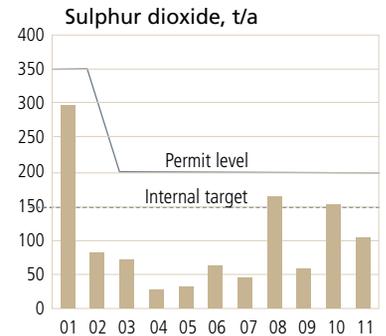
BY-PRODUCTS	
Turpentine	190 t
Soap	4,900 t

Permit level Kotkamills' target



Airborne emissions

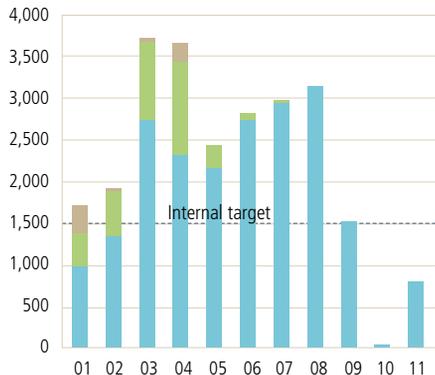
Airborne emissions in 2011 were within the permit conditions and internal goals, except in June, when nitrogen oxide emissions exceeded the internal target due to temporary maintenance on the gas turbine rotor, during which time the power plant was run on fresh-air combustion to ensure the mill's operation.





Waste

Industrial landfill waste, t/a



■ Soda precipitate
■ Coating material
■ Fibre sludge

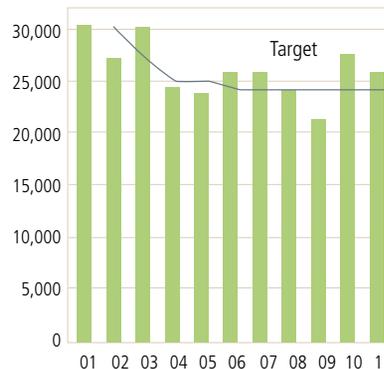
The mill was very successful in reducing the amount of waste. The only waste brought to industrial landfill was soda precipitate.

Waste from Kotkamills' site in Kotka as proportions



In 2011, less than 1,000 t of soda precipitate was taken to the industrial landfill, an increase from 2010, but still very low in relation to production. 2010 was an exceptional year, with recovery applications found for all soda precipitate.

Effluent volume, m³/d



Targets for 2012

- Permanent method for processing sludge from the effluent treatment plant to ensure the mill's operations
- Reducing effluent to less than 24,000 m³/d, avg.
- Increasing the amount of recycled fibre raw material used
- Improving energy efficiency by reducing specific energy consumption 2% annually from the 2011 level

CONTACTS

For more information, please contact Hannu Wahlberg,
Manager, Environmental Affairs
hannu.wahlberg@kotkamills.com | tel. +358 5 210 1604

Kotkamills Oy | P.O. Box 62–63 | FI–48101 Kotka, Finland | Tel. +358 5 210 11
L.P. Pacific Films Sdn. Bhd. | Plo 540, Jalan Keluli 3 | MY–81700 Pasir Gudang
Johor, Malaysia | Tel. +60 7 251 2941
www.kotkamills.com | sales@kotkamills.com



The Sapokka guest harbour is located in the immediate vicinity of Kotkamills Oy's mill area.