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**KOTKAMILLS**

Environmental Year / 2012



### Sustainability at all levels

We acquire technologies that enable us to reduce noise, waste water and emissions to air – while reducing our carbon footprint. At Kotkamills, energy efficiency is the foundation for sustainable development.

***“Energy efficiency is the foundation for sustainable development”***

Highly competent and committed employees continue to be key in reaching our environmental goals. In addition, we take our

stakeholders’ needs and wishes into account in all of our operations.

**HANNU WAHLBERG**  
Environmental Manager  
Kotkamills Oy



## Where there is a mill, there is a way.

Kotkamills is committed to manufacturing products more efficiently every year, with minimum emissions, making optimal use of raw materials. This means less water, energy and raw materials per each produced tonne of paper or cubic metre of sawn timber.

We focus on energy efficiency, paying special attention to how our energy is produced and how efficiently it is used. In addition, we seek to increase the proportion of recycled fibre in the production of laminating papers.

We give sawmill chips, sawdust and other by-products of the forest industry a new life: they are used to manufacture products instead of being burnt, for example. We make laminating paper from sawdust and recycled fibre produced out of old corrugated carton, extending their useful lives even by decades.

Kotkamills' environmental measures are guided by its environmental permit requirements, strategic goals and environmental targets. The minimum requirements for operations are determined by our environmental permit and the related obligations. We are in the process of updating our new environmental permit and are expecting to have it approved during 2013. The more detailed permit requirements will call for new analyses and reports.

We can be happy with our environmental performance in 2012. It was not the easiest of years, but we made progress in achieving our goals. We achieve the best results when our machines are running stably throughout the year, which was not the case for all of our products in 2012. In addition, we learned a great deal about the use of recycled fibre, which resulted in increased efficiency towards the end of the year.

Together, we have prepared our environmental goals for 2013. There is room for development in all areas. This involves the controlled running of processes and the elimination of risks and error situations. When planning investments, we always aim for solutions that are best for the environment. In 2013, our greatest investment will be replacing the base of a recovery boiler. We will also update the related technologies to meet modern environmental requirements. We are strong believers in determined and consistent work over the long term.

**TUIJA SUUR-HAMARI**

President  
Kotkamills Oy

## Will & skills

Results through collaboration

# 2012

# Goals and results

## Improving energy efficiency by reducing specific energy consumption by 2 per cent from 2011

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# 1.

In 2012, we focused on energy efficiency. Our goal was to reduce energy consumption by 2 per cent from 2011. We reached this goal, with additional energy saving potential for the following years. We have also identified all our energy saving needs. Process optimisation and the careful monitoring of the equipment used for heat transfer play an important role in all energy saving. The comprehensive measuring, monitoring and reporting of energy use are necessary for us to reach our goals.

# 2.

## Reducing waste water levels to less than 24,000 m<sup>3</sup>/day

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In 2012, our waste water levels were slightly higher than planned, because we had to remove more process water than usual from our system to improve paper machine runnability.

# 3.

## Increasing the use of recycled fibre

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Our use of recycled raw materials remained at the previous year's level. The use of recycled fibre presented technical challenges, which required us to make investments in late 2012. We expect our use of recycled fibre to increase.

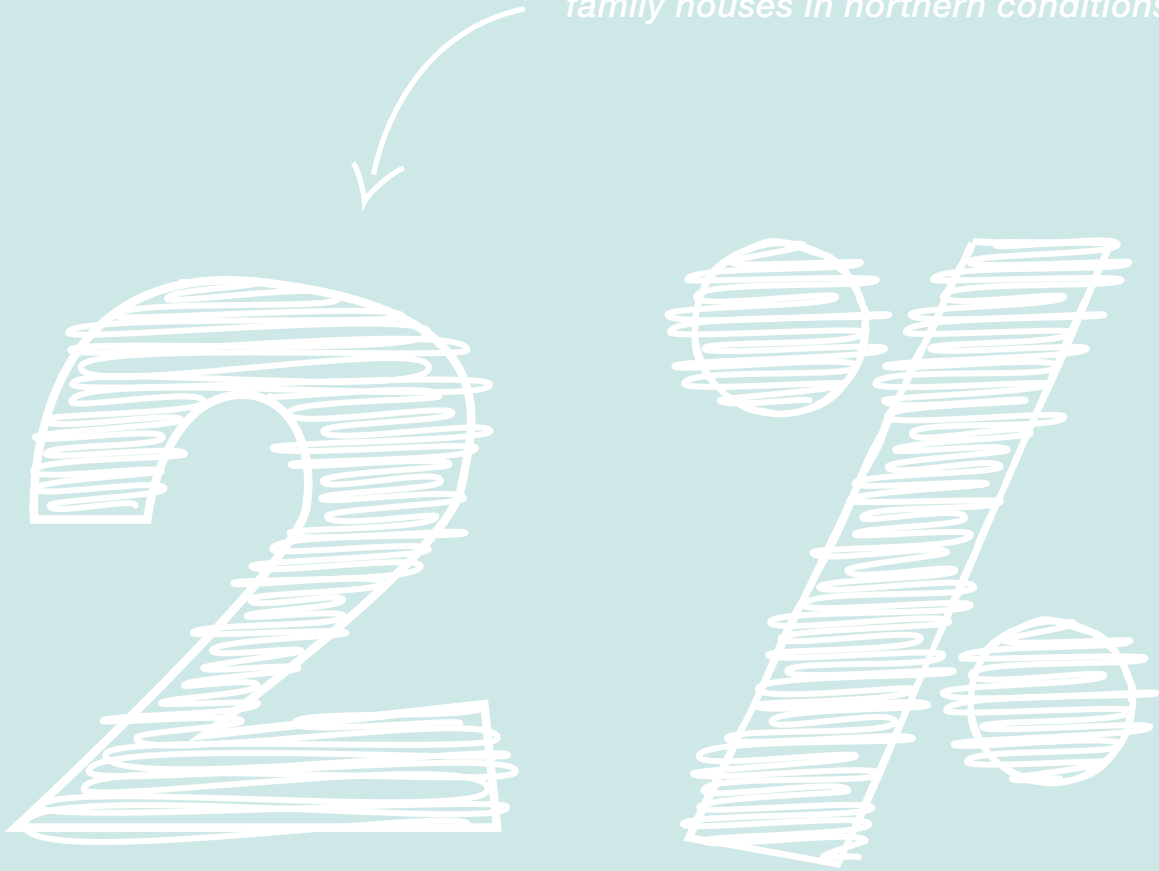
# 4.

## Permanent treatment solution for sludge to ensure plant operability

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We decided to outsource the treatment of sludge to a partner. We are actively following the development of bio-based treatment methods.

*Our energy savings equal the annual energy consumption of 1,500 single-family houses in northern conditions.*



## 2013 – Towards new goals

Our new goals for 2013 include the finalisation and implementation of the requirements set in conjunction with the inspection of our new environmental permit.

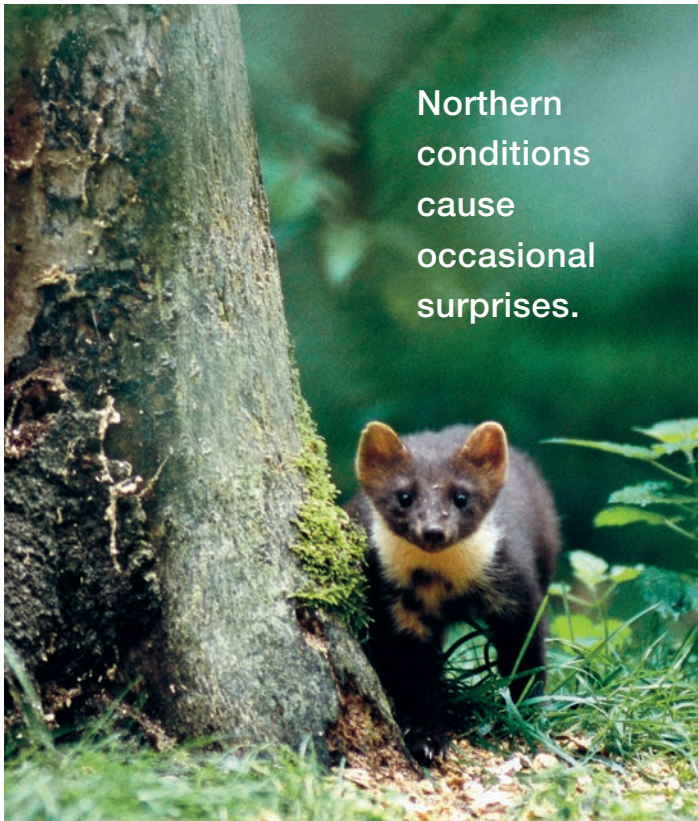
In energy consumption, our goal continues to be a decrease of 2 per cent from the previous year's level.

Our goals also include reducing our waste water levels to 24,000 m<sup>3</sup>/day.



Kotkamills continues on its chosen path in sustainability.





Northern conditions cause occasional surprises.

## Facts behind the figures

We met all of our annual permit requirements related to waste water emissions. We did not meet our monthly permit requirements for nitrogen levels in February, August and December because of damage repairs at the anaerobic plant. During the repairs, the plant was partly inoperative, and the shutdowns disturbed the biological processes at the waste water treatment plant. Furthermore, the biological inoperability of the anaerobic plant caused COD emissions from waste water to increase.

In January, we did not meet our NO<sub>2</sub> requirement. This surprise was caused by a pine marten that had managed to enter the transformer facilities of the gas turbine, resulting in a power outage in the entire factory. The gas turbine suffered serious damage and took several weeks to repair. Heat was produced using the combination boiler alone during the repairs, which generates higher NO<sub>2</sub> emissions than the gas turbine. Energy consumption at the factory also greatly affects NO<sub>2</sub> emissions.

## Environmental load

### Discharge into the water

Effluent Water	<b>9.8 million m<sup>3</sup></b>
Suspended matter	<b>620 t</b>
BOD	<b>329 t</b>
COD	<b>2 336 t</b>
Nitrogen	<b>53 t</b>
Phosphorus	<b>7 t</b>

### Air emissions

CO <sub>2</sub> foss.	<b>236 043 t</b>
CO <sub>2</sub> bio.	<b>245 247 t</b>
SO <sub>2</sub>	<b>65 t</b>
TRS (as sulphur)	<b>3.4 t</b>
NOx (as NO <sub>2</sub> )	<b>411 t</b>
Dust	<b>17 t</b>

### Raw materials

Logs	<b>405 270 m<sup>3</sup></b>
Chips	<b>236 843 m<sup>3</sup></b>
Sawdust	<b>641 840 m<sup>3</sup></b>
Purchased pulp	<b>30 302 t</b>
Recycled fibre	<b>14 791 t</b>
Chemicals	<b>118 171 t</b>
Raw water	<b>14.7 million m<sup>3</sup></b>

### Fuels and electric power

Natural gas	<b>4 306 TJ</b>
Biofuels	<b>2 249 TJ</b>
Purchased power	<b>143 GWh</b>

### By-products

Turpentine	<b>302 t</b>
Tall oil soap	<b>3 390 t</b>

### Annual production

Paper	<b>306 331 t</b>
Imprex products	<b>20 418 t</b>
Sawn timber	<b>183 560 m<sup>3</sup></b>

Our SO<sub>2</sub> emissions are expected to decrease considerably in August 2013, when the base of the recovery boiler will be replaced and the distribution of combustion air will be improved. Our factory has an **ISO 9001** quality management system, an **ISO 14001** environmental management system and an **OHSAS 18001** occupational health and safety management system as well as **FSC Chain of Custody** and **PEFC Chain of Custody systems** to verify the origin of wood.

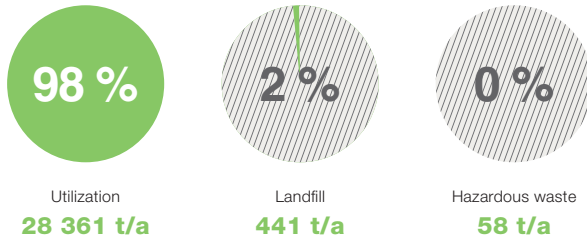
About 98 per cent of our waste is reused, and about 2 per cent is disposed of at a landfill.

# 98%

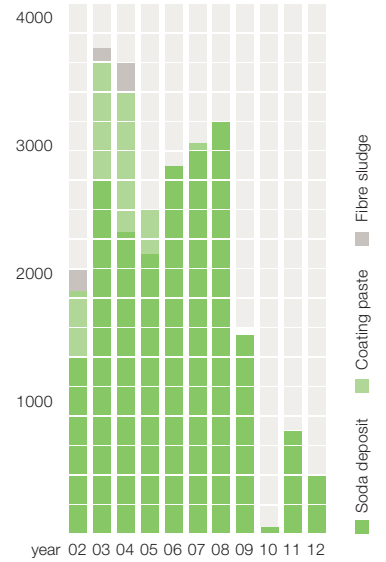
# Waste

## Distribution of waste

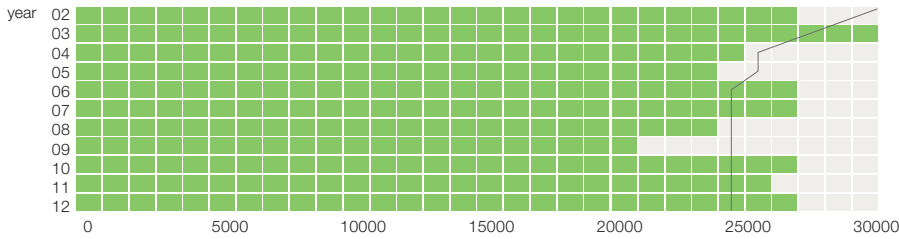
Our waste has been burned to produce energy and used in earthworks.



## Waste to landfill t/a



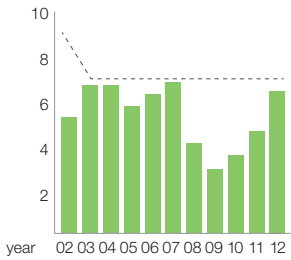
## Amount of waste water, m³/d



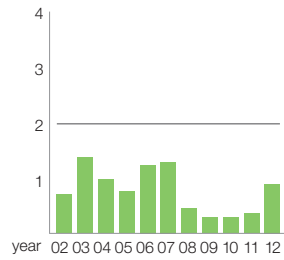
# Discharges into water

----- Official permit    ——— Target

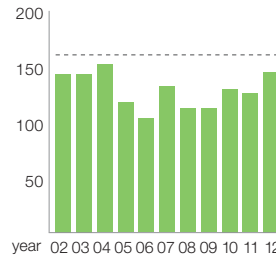
## COD, t/d



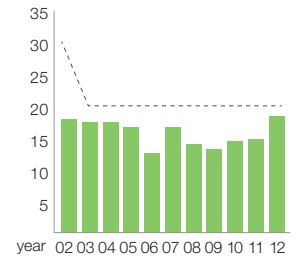
## BOD, t/d



## Nitrogen, kg/d



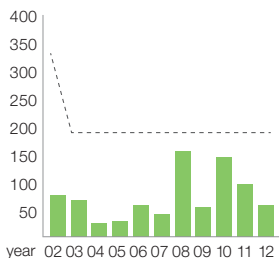
## Phosphorus, kg/d



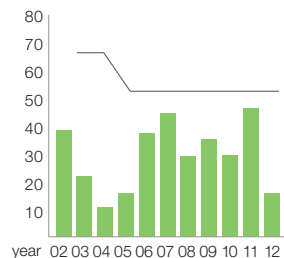
# Emissions into the air

----- Official permit    ——— Target

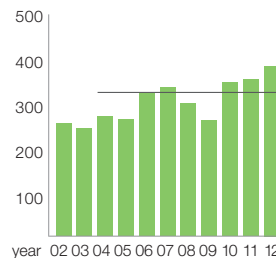
## SO<sub>2</sub>, t/a



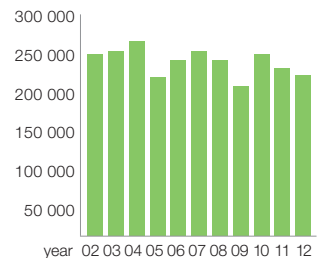
## Dust, t/a



## NO<sub>2</sub>, t/a



## CO<sub>2</sub> foss., t/a



**We would be happy to answer  
any questions you may have.**

**Please contact:**

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