PULP DIRECT

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UPM PULP • CUSTOMER NEWSLETTER

The Biofore Company UPM

BOOSTING PRODUCTION

at the UPM Kymi mill

As part of UPM Pulp's active development strategy, the UPM Kymi mill will undergo a modernisation process that ramps up its production by 170,000 tonnes – bringing the mill's annual capacity to 700,000 tonnes of UPM Conifer softwood and UPM Betula hardwood pulps by the end of 2015.

Jaakko Sarantola
Senior Vice President
UPM Pulp

"Above all, the Kymi mill investment will enhance the consistency of pulp quality and supply reliability for our customers around the world," says **Jaakko Sarantola**, Senior Vice President of UPM Pulp.

The new capacity will be achieved by removing bottlenecks in various phases of the pulp making process. This will include a new pulp drying machine, modernisation of the softwood fibre line, a new debarking plant as well as improvements in energy balance and water usage.

UPM KYMI MILL PULP PRODUCTION

60%
UPM BETULA

INCREASE BY 2015:
+100,000 tn

40%
UPM CONIFER

INCREASE BY 2015:
+70,000 tn

"We will be able to reach a more uniform humidity profile with the new drying machine. This translates into compact pulp bales which are easy to stack and safe to handle. At the end, our customers get their pulp in excellent condition." Each of UPM's three mills in Finland have two production lines, one for UPM Conifer and one for UPM Betula.

"In fact, one could say that we have six mills instead of three in Finland," Jaakko says.

With the investment, UPM wants to guarantee the global market availability of UPM Betula, a particularly good raw material for technical speciality papers.

PINPOINT IMPROVEMENTS

The EUR 160 million Kymi investment is a significant element in the continuous growth plan outlined in 2008, when UPM decided to enter the pulp business. According to the plan, every UPM pulp mill will improve their efficiency and increase production with relatively small, precision investments.

"We determined that all our mills had potential for more capacity," says Jaakko. In the next three years, the company is targeting a 10% increase in the total pulp production capacity.

The foundation for the capacity increase at Kymi was laid six years ago when the evaporation plant and chemical recovery of the mill were completely rebuilt with a EUR 360 million investment.

"We are now able to bring the mill to its full power. Kymi will soon be among the heavyweights of Nordic pulp production units."

The investment also means that the pulp mill will be capable of operating more independently from UPM's fine paper mill located in the same complex.

Other UPM mills follow suit, as well.

Last year, the Pietarsaari mill completed a major rebuild of the new biological effluent treatment plant and currently the birch fibre line and chip conveyors are being modernised. The mill's production capacity will gradually increase after the completion of the rebuild towards the end of the year.

In June, the Fray Bentos mill was granted a permit by the State of Uruguay to increase pulp production by 100,000 tonnes to 1.3 million tonnes annually.

BIG LOCAL IMPACT

The Kymi investment has a strong ripple effect creating new jobs in the Finnish forestry value chain. In addition to planning and implementation, the impact of the modernisation project can be felt outside the mill gates.

The increased capacity means more opportunities for local forest owners as well as harvester and transportation contractors. The mill will need roughly 700,000 cubic metres more certified wood for its production.

IMPROVED ENVIRONMENTAL PROFILE

UPM Kymi, located along the River Kymi in Kouvola, in South East Finland, will soon be one of the most advanced pulp mills in Europe.

A modern pulp mill is an industrial marvel. A few other industrial facilities can decrease their carbon footprint while increasing production. When the mill produces more pulp, it also yields more secondary products such as black liquor that is burned and used to generate renewable energy.

"With these improvements, the Kymi mill will be nearly fossil fuel-free to operate and it generates more biomass based electricity than it needs," Jaakko Sarantola sums up.

THE GREAT H_2O

IT SUSTAINS LIFE. Still, only a few percent of water on Earth is in a usable form. The availability of water will be one of the most significant questions of the future – both globally and all the way down to grass roots level.

Pulp making is a water-intensive industrial process. This is why sensible use of water is one of our environmental responsibility key areas even though UPM produces pulp in locations where there is no water scarcity.

OVER THE LAST TEN YEARS…

…we have improved existing mill processes and developed new ones to reduce water consumption and enhance effluent quality. This is what we have accomplished per tonne of chemical pulp produced:

CHEMICAL OXYGEN DEMAND (COD) LOAD	**–50%**
WASTEWATER VOLUMES	**–20%**
WATER COMSUMPTION	**–30%**

UPM FRAY BENTOS MILL (SINCE 2008)

–35%

WATER CONSUMPTION PER TONNE OF PULP

UPM PIETARSAARI MILL

–40%

CHEMICAL OXYGEN DEMAND LOAD PER TONNE OF PULP

THE BEST HOPE FOR WATER?

Fresh water is becoming a scarcer resource every day. To stop this trend, the global business community has risen to the challenge. They have plenty of water solutions and practical applications to share – but is anybody listening?

The World Business Council for Sustainable Development or WBCSD is a collaborative platform for forward-thinking companies. They address huge sustainability challenges such as water scarcity that affect everyone on this planet.

Joppe Cramwinckel, Water Director of WBCSD, says that since water is a public good, governments around the world should take stronger action on managing the resource. However, water scarcity is too big an issue to solve alone.

"The business community should be more involved in strengthening the governance framework. So far, it has been quite passive in water issues. Why? Because businesses haven't seen the benefits of actively participating."

The increased competition for water has led to serious quality, availability and security problems.

"Of course companies can do their part by treating waste water, but that unfortunately is not enough. They must take a more active role in managing water collectively with other key stakeholders outside their own plants and factories," Cramwinckel says.

According to the UN's GSP report, by 2030, the world will need at least 30% more water. Population growth, increased consumption and human actions such as pollution and overuse threaten nature's own water balance. The greater the stress on the water and ecosystems in general, the more prominent climate change effects. For example, floods and droughts have become more severe.

"If we don't change the way we are using water in agriculture, energy and manufacturing, soon there won't be enough fresh water in places where we need it," Cramwinckel underlines.

VOICING THE BENEFITS

World Business Council for Sustainable Development was established over 20 years ago as a business response to addressing environmental concerns put forward in the Earth Summit in Rio.

"WBCSD gives the business community a voice to promote sustainability and a way for companies to find and implement solutions together," Joppe Cramwinckel explains.

Water has moved from being strictly a local site issue to a very strategic business issue.

> Smart companies drive innovation for their business continuity, not just short term profit.

Joppe Cramwinckel
Water Director, World Business Council for Sustainable Development

"Businesses are starting to realise that investing in water management benefits everybody – themselves included."

It usually takes a practical problem to companies for realise the true value of water. Not having enough water for your production because of a drought is a pretty effective wake-up call.

"Even in very water-rich areas you can't take the availability for granted. I believe more and more companies recognise this and are ready to take on novel practices."

THE MOST IMPORTANT QUESTION

"What if?"

According to Joppe Cramwinckel this is the question you always have to ask when designing, for example, a new, water-intensive process. What if the whole industry adopts the same process, what happens then? Or what if climate change affects free water availability?

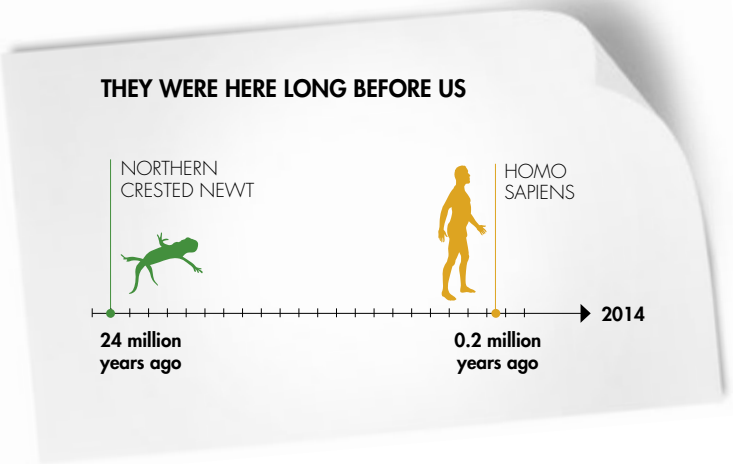
"One of the core principles of WBCSD's work is to look far enough ahead. Smart companies drive innovation for their business continuity, not just short term profit," he says.

With current technology and practices, we are able to reduce water usage in agriculture by 20–30 per cent and still produce the same amount of food. This reduction potential applies to all sectors including the forest industry.

"I truly believe that with the combined efforts of people, nations and companies, there will be enough water for everyone," Cramwinckel says optimistically.

SMALL CREATURES BIG ISSUES

While there are hundreds of endangered species in Finnish forests, one of them, the northern crested newt, became the perfect mascot for biodiversity preservation.



The likeable, only 15-centimetre long salamander is classified as endangered species in Finland, found only in few remote locations in North Karelia and Aland. However, everything seemed to fall into place, including preparing, planning and executing in a project to enhance the living conditions for the northern crested newt *(Triturus cristatus)*.

The four-year project concluded by the end of 2013 was part of a larger national METSO programme, established to secure the biodiversity of Finnish forests. The single most important action in the preservation project was to improve the state of small aquatic environments. Simply put: to dig forest ponds for the newts to breed and live in.

A total of 23 new ponds were dug in the habitat of the endangered newt. One third of these ponds are located in forests owned by UPM. In addition, new forestry practices were introduced to further improve survival rates of the creature.

The most important action in the four-year preservation project was to improve the state of small aquatic environments. One third of the 23 new ponds for the endangered newt were dug in forests owned by UPM.

Both researcher **Ville Vuorio** and Director for Nature Conservation **Sirkka Hakalisto** from the North Karelia Centre for Economic Development, Transport and the Environment are pleased with the project results.

"Cooperation with landowners, companies and authorities was smooth. Everybody seemed to put their hearts into this, and it paid off. According to our sightings, several of the ponds have new inhabitants already. This was the first time in Finland that northern crested newts have bred in manmade forest ponds," says Vuorio, who was also responsible for project coordination.

"I think we were also able to communicate our top level message through the preservation activities. We wanted to tell the public about the drastic effects of global climate change and biodiversity depletion. The northern crested newt was a concrete species people could relate," Hakalisto adds.

"The newt became an official local mascot making appearances in the media and even at a rock event," she says.

DEMANDING DOUBLE LIFE

The northern crested newt is a curious little animal. Although it lives in terrestrial habitats most of its life, newts breed under water and it has gills at first. During summer young newts develop lungs and they transform into a land dwellers.

"This is why the right kind of presence of water is vital to northern crested newts. If the trees in the vicinity of breeding ponds are cut down, the effect of the sun magnifies. This causes water to evaporate too fast, eventually suffocating the newts without developed lungs if the ponds dry up completely," Vuorio explains.

"Climate change combined with dramatic changes in water and other natural habitat conditions has triggered the problems. Extreme weather phenomena caused by climate change are becoming more and more common, making the northern crested newt's life harder," Hakalisto says.

Researcher Ville Vuorio actively participated in the northern crested newt habitat preservation project.

TAKING IT TO PRACTICE

The forests owned by UPM turned out to be an ideal test bed for large-scale activities affecting the living conditions of the northern crested newt. A 20-hectare model area was chosen for the ponds and for assessing new forest management practices.

"As a result, we now know, for example, how large a preservation zone the newt requires, what trees are the most suitable for its habitat and what kind of water conditions it needs," Sirkka Hakalisto explains.

The preservation steps were actually quite easy and cost-effective to carry out from forestry point of view.

"Just few things to remember. Thinning should be done during winter. In larger cutting operations a safe zone should be left near the ponds to preserve the protective undergrowth and trees that give good shade, such as deciduous trees," Ville Vuorio lists.

Now the northern crested newt has a fighting chance.

FROM THE EDITOR

Dear Reader,

By the time our newsletter reaches you, we will already have the first half of 2014 behind us and I hope you too have made a good start to the year.

At UPM we are pleased with the latest developments: continued growth of our sales volumes and organisation to cope with the additional volumes we are selling both from our own production and through our cooperation with Canfor Pulp. This is, however, only possible because of the trust that you our customers are placing in us, which we are working hard to achieve and maintain.

We have recently concluded our customer survey and will provide feedback on the results in the next issue of Pulp Direct as well as directly to those of you who participated. The results are encouraging reading for us, and will continue to motivate us to perform even better.

Summer is upon us and from a European perspective that typically includes a holiday break – we hope yours will be enjoyable.

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MEET FIBRE UNITED

UPM Pulp and Canfor Pulp's sales and marketing cooperation started strongly in all its markets – Europe, Asia, North America and Japan.

In the first half of the year, the two companies have met customers together on several occasions. For example, the joint Fibre United event in Shanghai in March was a huge success. It gathered more than 80 customers keen to hear what the cooperation is all about.

In case you missed us earlier, you will have your chance to meet us later this year as the UPM Pulp and Canfor Pulp's joint events will continue throughout the 2014.

COME AND MEET US AT LONDON PULP WEEK 10–14 NOVEMBER 2014!

THE LAPPEENRANTA BIOREFINERY MAKES WOOD GO ***VROOM!***

The UPM Kaukas in Lappeenranta will soon be the first fully operational bio-industry complex in the world integrating the production of sawn timber, pulp, paper, energy and advanced wood-based biofuels.

The one of a kind biorefinery is taking shape to start up the production of renewable diesel UPM BioVerno during the summer. The facility will use a completely new process to produce biofuel from crude tall oil developed at UPM's R&D Centre next door.

Sustainable Energy Europe Awards 2014

In June, UPM BioVerno was granted the European Union's Sustainable Energy Europe Award 2014 in the "Travelling" category.

EVERYTHING CLICKS TOGETHER AT THE NEW **upmpulp.com**

Want to get all your pulp-related information from a single source? Now you will. The new www.upmpulp.com helps you find and contact us easily, it introduces our products and mills and presents our approach to responsibility. The site is even a great place to learn about pulp in general.

We aim to create a pleasant and effortless user experience, so we are happy to receive your feedback on the new website. Send your suggestions at **pulp@upm.com.**

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