PULPING
Catalyst’s Port Alberni pulp mill super-sizes its TMP line

GROUNDWOOD/SC PAPERS
Capacity control, or lack thereof, plays the wildcard in determining the direction of the market
The best defense in the harshest conditions

Higher machine speeds increase the demand for sleeve performance. Metso’s BlackBelt, a unique shoe press sleeve made of high performance elastomer material reinforced with dimensionally stable synthetic yarns, withstands the harshest shoe press conditions. Available in different reinforcing structures and surface options, this reliable shoe press sleeve is wear, chemical and heat resistant, which ensures long and trouble free running.

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FEATURES

22 Port Alberni Tops Production
The Port Alberni mill in Canada has been an important fixture in the community since 1947. Today it is a leading North American supplier of lightweight coated and directory papers. The TMP furnish is supplied by a single Twin 60 refiner line from Andritz. A project to super-size the line challenged everyone involved.

26 Optimized Water Management
By reducing a paper mill’s consumption of fresh water and raw materials, papermakers can promote sustainable production, while also saving energy and money, without compromising product quality.

INDUSTRY REPORT

12 Corrugated Board Packaging Market
The corrugated board packaging industry, worth $52 billion as of 2011, is set to see its value swell by an additional $15 billion over the next five years.

SUSTAINABILITY

16 The Muddy Waters of Calculating Eco-friendliness
What is more eco-friendly: online billing or paper billing?

COLUMNS

18 Market Grade: Groundwood and SC Paper
Demand for both coated and uncoated groundwood grades continues its secular decline and in some grades the rate of decline has accelerated. Nevertheless, hope springs eternal as the fall catalog season could bring a boost to demand and a much needed price increase.

20 Heads Up: Europe: A Mid-term Report
A double-dip recession has tipped the Eurozone further down the slope. Pulp and paper companies are struggling to survive — some being successful, others not so much.

OF INTEREST

30 Bioenergy
Researchers at WIST are issued a patent on a new lignin-solvent process to separate biomass into pure cellulose and purified lignin.

DEPARTMENTS

4 Editor’s Note
6 Industry News
14 People
15 Calendar

SERVICES

29 Classified Ads
29 Index of Advertisers

Cover photo courtesy of Andritz.
Alternative Measures

By John O’Brien, Managing Editor jobrien@paperage.com

A decade ago I never would have thought the environmental lobby would be pushing for, among other things, a return to paper products. It may be that the alternatives in place today are simply more of a problem for the environment than their paper-based counterparts, and it just might be that the industry’s growing voice to educate consumers about the stuff it makes is finally getting through.

Take for example foam cups. According to the Environmental Protection Agency, Americans throw away 25 billion plastic foam cups a year, and each one would take more than 500 years to break down.

In the town of Brookline, Mass., voters this November will decide on whether or not the town will ban local businesses from using foam cups and containers. Although Brookline hasn’t mandated the use of a specific alternative, I would have to imagine coffee shops would have to switch to paper cups and restaurants would have to opt for paper-based “to-go” containers.

It’s the polystyrene foam that everyone is up in arms about, and not just in Brookline. Portland, Oregon’s City Council in June voted unanimously to direct its Transportation, Sustainability and Energy Committee to create an ordinance to ban sales of plastic foam. The council would have to approve the ordinance before it could take effect.

The Portland City Councilor who sponsored the initiative said the proposal was inspired by Portland’s school district, which in September stopped using foam trays, cups and containers in its cafeterias.

In California, the Los Angeles Unified School District (LAUSD), the second biggest school district in the nation, during the last week in August announced a plastic foam ban on all products throughout the district.

The decision was prompted by school kids in an Environmental Studies Magnet program at a Los Angeles-area middle school who constructed a foam “monster” from the roughly 1,500 foam lunch trays that are thrown away on a typical day.

After three years of pushing parents to help and lobbying to members of the school committee, the kids’ efforts convinced the LAUSD to make a change, and the District is switching to paper-based lunch trays.

It’s worth noting that LAUSD uses about 40 million trays per year, and not only are the new trays recyclable, but each paper tray is about 3 to 4 cents cheaper than the foam version, and results in the district saving about $5 million to $6 million.

The list of towns and cities considering bans on plastic foam is long and growing, but you get the picture.

I’m going to stop here for a second to state that I’m not a fan of local government bans on things, but I’m going to leave politics out of this discussion.

The point I’m trying to convey is that there are opportunities opening up for the paper industry as today’s society takes environmental consciousness to a higher level. Whether it’s replacing billions of foam cups, containers and trays with recyclable paper alternatives or continually reinforcing to consumers the fact that paper is truly a sustainable product, the paper industry has to show that its products are a better way forward.

If a group of school kids can do it,...
If you had to choose a kaolin supplier based on one quality, which would you choose?

- TAILORED SOLUTIONS
- SERVICE
- STABILITY
- LONGEVITY
- GLOBAL REACH
- PRODUCT DEVELOPMENT

The good news is you can have them all with Thiele, a privately held company serving papermakers worldwide since January 1, 1947.
SP Fiber Technologies Acquires SP Newsprint Assets

SP Fiber Technologies LLC (SPFT) in September acquired substantially all of the assets and certain liabilities of SP Newsprint and its subsidiaries in a court-approved sale.

SPFT said that it will relocate its corporate headquarters to its facility in Dublin, Georgia.

The company will operate its mills in Newberg, Oregon and Dublin, Ga., as well as its wholly-owned subsidiaries SP Recycling Southeast LLC (SPRS) and SP Recycling Northwest LLC (SPRN). Both recycling companies are based in Atlanta.

Jay Gurandiano, who will serve as Chairman of the Board, President and CEO, has held senior management positions at Smurfit-Stone Container and founded St. Laurent Paperboard. Gurandiano will also oversee SPFT’s recycling businesses.

“We are excited about the future of SPFT and all of its businesses,” said Gurandiano. “SPFT is a well-capitalized company with committed and knowledgeable shareholders and an exciting strategic plan to strengthen its place in the newsprint and packaging markets. It has a strong and experienced workforce and a solid customer base to build upon.

“While newsprint will remain the foundation of the business for the foreseeable future, the company is looking forward to aggressively developing an innovative, value-added packaging component to service the paperboard, containerboard and converting marketplaces,” Gurandiano said.

SP Newsprint Holdings LLC and its subsidiaries on Nov. 15, 2011 each filed a voluntary petition for relief under Chapter 11.

On Sept. 4, 2012, U.S. Bankruptcy Judge Christopher S. Sontchi approved the sale of SP Newsprint Holdings LLC for $145 million to a group of lenders led by GE Capital Corp. that had served as a stalking horse bidder for the struggling newsprint and recycling firm since July.

Judge Sontchi agreed to sign off on the sale documents, which included requests for additional debtor-in-possession financing and the conversion of the post-sale case from Chapter 11 to Chapter 7.

KapStone to Invest $29 Million in Its North Charleston Mill

KapStone Paper and Packaging’s Board of Directors has approved a $29 million investment in the company’s North Charleston, South Carolina paper mill.

According to Kapstone, the investment is expected to improve the capability and efficiency of No. 3 Paper Machine in producing Ultra High Performance (UPL) lightweight linerboard grades by replacing the press section.

The new press section will be supplied by PMT Italia, KapStone said.

The investment also includes projects in the fiber and utilities areas to support production of these strategically important grades.

KapStone said engineering and construction are expected to occur over the next 18 months, targeting installation of the press section during the first quarter of 2014.

The North Charleston mill operates three paper machines and has an annual capacity to produce about 850,000 tons of linerboard, saturating Kraft, and Kraftpak (virgin fiber, unbleached, uncoated folding carton board).

Resolute to Restart Dolbeau Paper Mill in Canada

Resolute Forest Products announced that it will resume operations of its paper mill in Dolbeau-Mistassini (Quebec, Canada).

The mill was idled in June 2009 by the former AbitibiBowater.

The decision to restart the mill follows the receipt of a notice of acceptance of the tender regarding the sale of electricity to be produced at the company’s Mistassini cogeneration facility to Hydro-Quebec, Resolute said.

The restart of operations represents an investment of $20 million, Resolute noted.

Production of soft nip calendered (SNC and SCB) commercial printing paper will resume as soon as the recall of employees is completed.

The restart of the mill will provide direct employment for about 135 workers, the company said.

“We spared no effort to relaunch the Dolbeau mill because it is a good investment,” said Richard Garneau, President and CEO of Resolute.

“With this announcement, Resolute will be more competitive than ever,” Garneau added.

Resolute said that it is currently assessing its network of paper mills to ensure that production continues to be balanced.
Cascades to Initiate Modernization Program within Norampac, Closing LaChute Folding Carton Plant

Cascades said that it will make major investments totaling $22 million to upgrade several of the folding carton and micro-lithography plants of its Norampac Division.

Viau (Montreal, Quebec), Mississauga (Ontario), Winnipeg (Manitoba) and Cobourg (Ontario) plants will benefit from the installation of new modern equipment that will optimize production and efficiency, Cascades said.

As a result of the modernization plan, the Lachute (Quebec) folding carton plant will be closed at the latest by the end of the first quarter of 2013, and its customers will be progressively transferred to other Norampac facilities, Cascades said.

Nearly 155 employees will be affected by the closure of the Lachute plant, however about 40% of the workers will have the opportunity to be relocated within other Norampac and Cascades units in Quebec, the company said.

Norampac has taken necessary measures to offer the appropriate support to the employees that will not be relocated, Cascades added.

According to Cascades, the modernization of equipment will be achieved through the installation of two new state of the art printing presses in the Viau and Mississauga plants. The presses — one of which has a printing capability of up to 7 colors and an ultraviolet drying process — were designed to offer the latest technology and are among the best in the industry.

The optimization project also includes the installation of new equipment in the Group’s other folding carton plants, namely a new gluer in Winnipeg and forming equipment in Cobourg.

“The folding carton market in Canada continues to be key to our strategy in the packaging sector,” said Marc-Andre Depin, President and CEO of Norampac. “This market benefits from stable growth that closely matches that of the consumer market for food products sheltering it from the negative cycles that affect industrial products.

“Cascades occupies an enviable position in the folding carton market in Canada and these investments will allow us to consolidate and improve upon this position in the coming years,” Depin added.

Millar Western to Build Bioenergy Plant at Its Whitecourt Pulp Mill

Millar Western Forest Products is moving ahead with construction of a $42 million bioenergy facility at its bleached chemi-thermo-mechanical pulp (BCTMP) mill at Whitecourt, Alberta, Canada.

The project will involve integration of anaerobic hybrid digesters (AHDs) into the BCTMP mill’s existing aerobic effluent treatment system.

The AHD units will recover organic material from the pulp mill’s effluent stream and convert it to a biogas, Millar Western said.

After conditioning, the biogas will be used to fuel reciprocating engines to generate 5.2 megawatts of renewable energy for use by the company’s pulp operations, Millar Western added.

All required regulatory approvals are now in place, allowing the project to proceed immediately, the company said.

Construction began in September, with start-up slated for late 2013.

The project will not disrupt pulp or lumber production at the company’s Whitecourt facilities, Millar Western added.
Kimberly-Clark and Booshoot to Partner in Development of Tissue Products Made with Bamboo Fiber

Kimberly-Clark and Booshoot, a biotechnology company focused on bamboo forestry, agriculture and nursery wholesale, have agreed to collaborate in the development of the manufacturing of tissue products containing fiber derived from Booshoot’s proprietary bamboo propagation technology.

Under the agreement, Booshoot will deliver tens of thousands of bamboo starts to be grown in Kimberly-Clark pilot projects.

According to Booshoot, the trials are designed to prove the viability of several species of giant bamboos, including 'Moso' (Phyllostachys edulis), as a scalable and sustainable tree fiber alternative.

Where conventional Northern Softwood trees take 60 or more years to reach harvestable maturity, Moso grows close to 100 feet tall and is harvestable in less than a decade, producing several times the fiber of traditional timber, and capturing four times the carbon dioxide of most trees, Booshoot said in a statement.

“As a leader in bamboo technology, Booshoot is well positioned to support Kimberly-Clark’s objective to develop sustainable fiber alternatives and take them to commercial scale,” said Gordon Knapp, President of North American Consumer Tissue for Kimberly-Clark.

“Introducing alternatives to natural forest fiber to our supply chain is important to our goals associated with responsible fiber sourcing as well as our goals to improve management of input cost risk and variability,” Knapp explained.

In 2011 Kimberly-Clark used nearly 750 thousand metric tons of primary wood fiber sourced from natural forests. The agreement with Booshoot is designed to help Kimberly-Clark meet its pledge to cut the amount of natural forest fiber in half by the year 2025, an amount equivalent to the fiber used to manufacture over three billion rolls of toilet paper.

Booshoot’s patent-pending bamboo are “true to type” species that are not genetically modified, producing more biomass on less land, in less time than other traditional forest products. In addition to providing fiber for the paper industry, bamboo from Booshoot is an ideal raw material for everything from textiles to biofuels to building materials.

EUROPE

Ahlstrom to Acquire Munktell Filter for EUR 20 Million

Ahlstrom has signed an agreement to acquire the Sweden-based Munktell Filter AB for EUR 20 million in order to grow its advanced filtration business particularly in life science and laboratory applications.

Under the terms of the deal, Ahlstrom will acquire 100 percent of the shares in Munktell Filter AB, as well as its holdings in Munktell & Filtrak GmbH, Filtres Fioroni SA and Munktell Inc.

Munktell is based in Falun, Sweden and it has production sites in Germany and Sweden, a joint venture in France, as well as a sales office in the U.S. The company’s net sales amounted to approximately EUR 15 million. It employs some 100 people.

Munktell produces filtration materials mainly for life science and laboratory applications. End-use examples include new born screening, laboratory media filtration, filter materials for pollution control, as well as testing materials used by medical, sugar and beverage industries.

Ahlstrom expects to close the deal by the end of October.

Ahlstrom Investing EUR 10 Million to Increase Filtration Materials Production at Turin Mill

Ahlstrom will invest approximately EUR 10 million to increase the production capacity of filtration materials at its paper mill in Turin, Italy.

The investment will be operational by the third quarter of 2013 and consist of an upgrade to a paper machine producing filter media for transportation and gas turbine applications, which will significantly increase the Turin plant capacity to supply filter media to customers globally, Ahlstrom said.

Gary Blevins, Vice President, Transportation Filtration, said, “Our global filtration platform has grown significantly in the past two years, with the recent investments in the new saturator line in Turin, the expansion at our plant in Louveira in Brazil and the acquisition and the expansion of the Binzhou plant in China. We will continue to work with our customers to grow in regions where they are focused.”
EUROPE

Sodra Cell to Exit CTMP Market, to Divest Follafoss Mill in Norway

Sodra Cell said that it has decided to exit the CTMP (chemi-thermomechanical pulp) market by November 1 and as a result, the company is putting together a plan to divest its CTMP mill in Follafoss, Norway, which operates as Sodra Cell Folla.

“We’ve been struggling to create profitability in CTMP for several years. In spite of all the measures we’ve taken, we’ve found it increasingly difficult to find a profitable market for what we produce,” explained Gunilla Saltin, President of Sodra Cell.

According to Sodra, the company has used considerable resources to reverse the negative trend, including energy efficiency improvements, product development and cutting the workforce.

“We’ve been trying for a long time to find a solution to make operating the mill profitable, but we now have to accept that previous conditions for profitable CTMP production at Follafoss no longer exist. We deeply regret that this is the case,” Saltin said.

The Folla mill produced 83,500 tonnes of pulp in 2011. Average annual production has been 107,000 tonnes.

There are currently 51 employees at the mill. If it closes, a career transition process will be initiated that will include all employees, the company said.


JAPAN

Nippon Paper Restarts Paper Machine N2 and Coater at Ishinomaki Mill

After being affected by the Great East Japan Earthquake, Nippon Paper Industries on August 30 resumed operation of Paper Machine N2 and Coating Machine 2 at the Ishinomaki Mill (Ishinomaki, Miyagi Prefecture) in Japan.

As a result, the production capability at Ishinomaki Mill has recovered to around 850,000 tons per year, with all six paper machines and two coating machines at the mill having resumed operations based on the company’s Plan for Paper Business Revitalization.

CHINA

APP’s Guangxi Jingui Pulp & Paper Mill Recognized for Water Technology

Asia Pulp & Paper (APP) announced that it has been recognized for its use of innovative technologies with Guangxi Jingui Pulp & Paper’s waste water treatment project as a Key Technology R&D Program of China by the Guangxi Province’s Science and Technology Bureau.

The R&D program, into which APP-China will inject a total investment of 200 million yuan (USD $32 million), enhances waste water treatment from chemi-mechanical pulp (CMP) production with high-grade oxidization technologies.

Jingui Pulp & Paper is one of APP-China’s large-scale mill facilities and started pulp production in 2011. According to APP, it is the first enterprise to develop and employ this advanced technology for waste water treatment in CMP production. The process incorporates an alkaline recycling system that distills waste water and converts organic waste material into energy. At the same time, alkaline residues in the waste water are recycled and reused. By deploying this system, the mill is able to recycle 95% of the water used in CMP production and reuse 93% of alkaline in its waste water, while conserving energy equivalent to 33,000 tons of standard coal each year.
RUSSIA
Ilim Investing Over $580 Million in Mill Modernization Projects

Ilim Group in 2012 is investing over US $580 million to complete modernizing and expanding the Group’s mills.

“By the fifth anniversary of our joint venture with International Paper this October, we will have fulfilled the investment plans that were given at the time of our JV launch in 2007,” said Paul Herbert, CEO of Ilim Group.

“Including the 2012 amounts, the total investment we have made since 2007 will exceed US $1.8 billion, which is even larger than we announced five years ago,” Herbert said.

Ilim is currently completing construction of a new $800 million softwood pulp line in Bratsk, Siberia, and is building a new $270 million paper production line in Koryazhma.

Both projects will be completed by the end of 2012 and production will be headed to markets during the first quarter of 2013, Ilim said.

Other major investment projects already completed by the company include $250 million for high tech forest equipment, which improved efficiency of harvesting, transportation and reforestation operations by 40%; and construction of a new $50 million semi-chemical pulping process, which dramatically improved the quality, effectiveness and ecological friendliness of the company containerboard production at Koryazhma.

“Ilim Group continues to demonstrate that it is the Russian forest industry leader and the largest investor in the Russian pulp, packaging and paper industry,” Herbert stated.

“Currently, our main focus is to successfully complete and start up of our big projects. After that we will start development of our next growth steps, which will include investments focused on building capacity for high quality consumer packaging products for the domestic market, and a second major expansion of our softwood pulping capacity in Siberia to satisfy the growing Chinese and Southeast Asian demand.”

AUSTRALIA
Norske Skog to Convert Machine at Boyer Mill to Coated Grades

Norske Skog announced that it will convert a machine at the Boyer mill in Australia to the production of coated grades, and close one newsprint machine at the Tasman mill in New Zealand.

“We are committed to the future in Australia, and we therefore invest AUD 84 million,” said Sven Ombudstvedt, Norske Skog’s President and CEO.

“With substantial funding support from the Australian government, we strengthen the operations at Boyer. This will create future growth opportunities for the Norske Skog group.”

The machine conversion project will see AUD 84 million invested at Norske Skog’s Boyer Mill in Tasmania over the next two years to enable the production of coated grades. The Australian Federal Government will contribute AUD 28 million in grants to help fund the project, and the Tasmanian State Government is providing an AUD 13 million loan.

The Boyer mill houses two paper machines, PM2 and PM3. PM2 has the capacity to produce 125,000 tpy of newsprint, improved newsprint, and directory paper, while PM3 has the capacity to produce 165,000 tpy of newsprint.

The company did not specify which machine would undergo the conversion to coated grades.

Norske Skog expects to complete the project for the first quarter of 2014.

At the mill in New Zealand, “The permanent closure of 150,000 tpy of capacity at the Tasman mill in New Zealand is required to create a better balance between demand and supply for newsprint in the region,” Ombudstvedt explained.

“There is today considerable surplus capacity of newsprint in the region. Despite years of great efforts of the staff, the decision is unfortunately unavoidable. The implementation arrangements and timeframes will be subject to consultation with employees and other stakeholders,” Ombudstvedt concluded.
**INDUSTRY SUPPLIERS**

**Voith to Supply Bank Note Paper Mill India with Two Paper Machines**

Voith will supply Bank Note Paper Mill India (BNPM) with two paper machines for BNPM’s new paper mill in Mysore, India.

The project involves two entire production lines, including all paper machine clothing.

Each of the two machines has a wire width of 2,800 mm and produces high-quality bank note paper with a basis weight of 90 g/m², Voith said. Annual production capacity per machine is 6,000 metric tons.

BNPM, a joint venture between Security Printing & Minting Corporation of India Limited, a wholly owned Public Sector Undertaking of Government of India under Ministry of Finance and Bharatiya Reserve Bank Note Mudran Private Limited, a wholly owned subsidiary of Reserve Bank of India, engaged in setting up of a Bank Note Paper Mill at Mysore, Karnataka, India with a capacity of 12,000 tons per year.

The mill construction project will be completed in two phases (production capacity of 6000 tpy in each phase), with the commissioning of the 1st phase scheduled for October 2013 and the 2nd phase by April 2014.

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**Metso and Huhnseal Agree to Partnership in Mechanical Seal Supply Deal**

Metso and the Swedish seal manufacturer Huhnseal have signed an agreement regarding mechanical seals for the global pulp and paper industry. The seals will be sold under the Metso brand with the product name SealMax.

The agreement includes mechanical seals both for Metso equipment and for all standard applications.

The two companies have initiated the development of tailor-made mechanical seals for Metso equipment, such as MC pumps, mixers, agitators, pulpers, screens and LC refiners. These sealing solutions will be available for new projects and also as upgrades for existing equipment and will be sold and marketed globally through Metso.

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**Andritz to Deliver Tissue Machine to China**

Andritz has received an order from Hebei Yihuocheng Commodity Co. Ltd., China, to supply a PrimeLineCOMPACT II tissue machine with steel Yankee.

According to Andritz, the tissue machine has a design speed of 1,650 m/min and a width of 2.85 meters. The scope of supply also includes the complete stock preparation plant, automation, and drives.

Start-up is scheduled for the end of 2013.

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**Van Horn, Metz & Co. Named Thiele Distributor**

Van Horn, Metz & Co. (VHM) has been named as a distributor for Thiele Kaolin Company. Beginning on September 1, 2012, VHM will market Thiele’s specialty kaolins to industrial minerals markets in the U.S.

“Thiele has been offering the highest quality products with the best customer care for more than 60 years,” noted Thiele’s Vice President and Director of Sales and Marketing, Eric Tillirson. “Van Horn, Metz shares those high standards and is an ideal partner to help us provide Thiele’s products and services to kaolin consumers in industrial markets.”

“We’re very excited to announce our new partnership with Thiele Kaolin Company,” said Brian Boorman, Executive Vice President of Van Horn, Metz & Co. “As Thiele works to expand their market presence, we welcome the opportunity to offer their specialty kaolins across our entire geography into the coatings, plastics, adhesives, rubber and allied markets.”

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**Tissue mill sees over $600,000 per year in value**

**impact ts**

advanced tissue felt technology
Corrugated Board Packaging Market Projected to Hit $67 billion by 2017

The corrugated board packaging industry, worth $52 billion as of 2011, is set to see its value swell by an additional $15 billion over the next five years according to the latest market intelligence from Smithers Pira.

A new study, “The Future of Global Markets for Corrugated Board Packaging to 2017,” examines the development of the container-board packaging market over the 2007-2012 period and provides forecasts for the evolution of the industry until 2017. The 558-page report links the rapid expansion of the sector — a growth of 29% — to increasing demand for certain end-use products which correlate with the hectic lifestyle of the modern consumer.

Actual consumption of corrugated board currently stands at 102 million tonnes as of 2011, itself a significant increase on 99.5 million tonnes for the preceding year. This figure is expected to undergo an average annual growth of 4.4% throughout the timescale of the study, achieving an end value of 130 million tonnes.

Packaging for chilled, takeaway and ready-cooked foods is set to be a primary factor for growth in the market, with Smithers Pira identifying the rising demand for convenience as a key propellant. It is increasingly clear that the ever-accelerating momentum of urban life is generating a need for time- and effort-saving solutions that fall within the corrugated board packaging market’s remit.

Environmental concerns also are acting as a catalyst to drive research, such as new developments in lightweighting and resource-effectiveness. As such, contemporary realities both require and provide that corrugated board packaging remain a technological and scientific leader. The report investigates some of the industry’s upcoming cornerstone developments for the near future.

The balance of consumption is likely to shift ever further towards economically developing regions such as China, India, Brazil and Eastern Europe, indicative of the increasing urbanization and growing consumer markets present in these areas.

Already the largest container-board market, Asia is set to dominate demand with over half of corrugated board consumption in the next 5 years. China, especially, will be accountable for 70% of the net rise in containerboard production. Conversely the North American and Western European markets are both likely to shrink in relative importance, each contracting by around 3% by 2017, according to Smithers Pira’s projections.

Processed food currently forms the single largest segment for end-use corrugated board packaging, encompassing a quarter of all consumption, while fresh food and produce represents 9% and beverages 7%. Non-food products however still compose an absolute majority, providing relatively flexible opportunities in all sectors of the market. Smithers Pira predicts packaging for electrical goods and personal and household care products to be the richest sectors for growth, again connected to trends in urbanization.

The Future of Global Markets for Corrugated Board Packaging to 2017 is based on data garnered from over 750 board mills and 80 corrugated converters worldwide and supplemented with desk and telephone research. For more information, please visit Smithers Pira’s website: www.smitherspira.com.
Enviro C8 HST is a new product that is slid onto dryers and shrunk tightly into place. The heat shrinkable sleeve provides great release and chemical resistance in a fraction of the time needed to install a traditional dryer cover that requires seaming.

For more information on Enviro C8 HST, contact sales@fluoron.com, phone 410-392-0220, or visit www.fluoron.com.

Fluoro-Wear Extended Wear Heat Shrinkable Sleeves

Fluoron’s Fluoro-Wear™ sleeves are a proven solution for felt rolls plagued with build up or pitting. Rather than replacing a felt roll that is causing felt wear, sleeve it with a Fluoro-Wear™ 307 and gain the benefits of a non-stick surface.

For more information on Fluoro-Wear™, contact sales@fluoron.com, phone 410-392-0220, or visit www.fluoron.com.

Fluoro-Coat™ X550

Keeping dryers clean is a good way for mills to save energy. A recent test done in a paper mill in Western Canada revealed that a clean dryer is up to 27.8°F (16°C) hotter than a dryer with moderate build-up on it’s surface. This means that a clean dryer will require less steam pressure to reach optimal drying temperatures!

For more information on Fluoro-Coat™ X550, contact sales@fluoron.com, phone 410-392-0220, or visit www.fluoron.com.

Fluoro-Stat™ Anti-Static Heat Shrinkable Sleeves

Fluoron’s anti-static heat shrinkable sleeves are ideal for rolls with build-up in dry applications, where static is an issue. Often used on bowed rolls, these sleeves provide the same great release as other heat shrinkable sleeves but have the capabilities to last up to 10 times longer!

For more information on Fluoro-Stat™, contact sales@fluoron.com, phone 410-392-0220, or visit www.fluoron.com.

ELKTON, MARYLAND
410-392-0220
FAX: 410-392-4357
www.fluoron.com
E-mail: sales@fluoron.com
**PAPER**

- **Finch Paper** has appointed **Michael McLarty** as Vice President of Forest Management and Wood Procurement. He succeeds **Roger Dziengeleski**, who recently retired from Finch Paper after 33 years of service. McLarty is a Registered Professional Forester from Northwestern Ontario with more than 15 years of experience in the forest industry. He was most recently the Timberlands Manager for Northern Pulp Nova Scotia.

- **Greif, Inc.** announced that **Nadeem S. Ali** recently joined the company as Vice President, Treasurer. He had been senior director of Capital Markets & Treasury Operations, Corporate Treasury for Cummins, Inc. Ali holds an MBA from the Ross School of Business at the University of Michigan, a Master of Science degree in Mechanical Engineering from Stanford University and a bachelor’s degree in Mechanical & Material Science & Engineering from the University of California, Berkeley.

- **Longview Fibre Paper and Packaging** recently announced that **Gary Parafinczuk** joined the company as its new Human Resources Director. Parafinczuk has over 30 years experience in the pulp and paper industry. He most recently worked as the Vice President of HR with RockTenn in Norcross, Georgia.

- **Metsa Board** has appointed **Mika Paljakka** as Sales Director, Cartonboards, USA. Paljakka formerly served as SVP, Human Resources. He will be located in the Metsa Board’s U.S. sales office.

- **Tembec** recently appointed **Linda Coates** to the position of Vice President, Human Resources and Corporate Affairs. Ms. Coates joined Tembec in May 2011 as Corporate Vice President, Communications and Public Affairs.

**INDUSTRY ASSOCIATIONS**

- The **Forest Products Association of Canada** (FPAC) named **David Lindsay** as President and CEO of the Association. Lindsay was most recently a senior Deputy Minister in the Government of Ontario serving in the portfolios of Energy and Infrastructure, Northern Development, Mines and Forestry, Natural Resources, Tourism and Culture. Lindsay replaces **Catherine Cobden**, who served as interim CEO since April 2012. Cobden becomes Executive Vice-President of FPAC.

**SUPPLIERS**

- **Fabio Perini S.p.A** has named **Stefano Di Santo** as Managing Director. In addition, in his capacity as CEO, Di Santo will be responsible for the Fabio Perini Business Unit worldwide. Di Santo succeeds **Alessandro Bulfon**.

- **Fisher International** announced that **Szymon Siuda** recently joined the company as Senior Consultant, Europe Office. Prior to joining Fisher International, Siuda, who has a degree in Chemical Engineering, held management positions at several multinational corporations including BASF and Raisio.

- **Xerium Technologies** announced the appointment of **Harold C. Bevis** as the company’s new CEO, President and Director. Bevis previously served as CEO, President and Director of Pliant Corporation and Jordan Telecommunication Products. Also, **James F. Wilson**, currently Xerium’s Lead Director, has been appointed the company’s Chairman of the Board. As previously announced in December 2011, **Stephen R. Light**, Xerium’s Chairman, CEO and President resigned from his executive and board positions. Light will remain a non-executive employee of the company to facilitate the executive transition until his retirement in February 2013.

**RESIGNATION**

- **Kristopher J. Matula**, President and COO of Buckeye Technologies resigned from the company on August 31 to focus on other interests.
2012

OCTOBER 1-4, 2012
SuperCorrExpo 2012
TAPPI and AICC
Georgia World Congress Center
Atlanta, Georgia, United States
Contact: Kristi Ledbetter
kledbetter@tappi.org
website: www.supercorrexpo.org

OCTOBER 3-5, 2012
North American Forest Products Conference
RISI
Boston Park Plaza Hotel
Boston, Massachusetts, United States
Contact: Misty Belser
e-mail: mbelser@risi.com
website: www.risinfo.com/events

OCTOBER 14-16, 2012
Paper Recycling Conference & Trade Show
Recycling Today Media Group
Marriott Downtown Magnificent Mile
Chicago, Illinois, United States
website: www.paperrecyclingconference.com

OCTOBER 17-19, 2012
PPC Fall Meeting and Leadership Conference
Paperboard Packaging Council
Cosmopolitan of Las Vegas
Las Vegas, Nevada, United States
Contact: Kim Guarnaccia
Phone: 413-686-9193
Web site: www.ppcnet.org

OCTOBER 30-NOVEMBER 2, 2012
PAP - FOR
Reed Exhibitions
International Exhibition Centre Lenexpo
Saint Petersburg, Russia
Contact: Elizaveta Artemova
e-mail: elizaveta.artemova@reedexpo.ru
website: www.papfor.com

OCTOBER 31-NOVEMBER 2, 2012
International Containerboard Conf.
RISI
Westin Chicago River North
Chicago, Illinois, United States
Contact: Misty Belser
Phone: (+1) 919-285-2800
e-mail: mbelser@risi.com
website: www.risinfo.com/events

NOVEMBER 7-8, 2012
Specialty Papers Conference 2012
Pira International and TAPPI
Hyatt Rosemont
Chicago, Illinois, United States
Contact: Barbara Fowler
website: www.specialtypaperconference.com

NOVEMBER 8-10, 2012
Paper Middle East Exhibition
Nile Trade Fairs
Cairo International Convention Centre
Nasr City, Egypt
website: www.papermideast.com

NOVEMBER 14-16, 2012
Tissue World Asia
UBM
Shanghai International Exhibition Center
Shanghai, China
website: www.tissueworld.com

2013

MARCH 17-19, 2013
Paper2013
AF&PA and NPTA
Fairmont Hotel
Chicago, Illinois, United States
website: www.paper2013.com

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In July, Two Sides announced a free nationwide program to assist major U.S. companies in separating myth from fact when dealing with the question, “Are Paperless Bills and Statements Really Better for the Environment?”

Dutifully, Two Sides presented a strong argument on paper’s behalf, emphasizing that a thorough Life Cycle Assessment (LCA) needs to be performed on a case by case basis before a company can make an informative decision whether to go with or without paper for billing.

Phil Riebel, President and COO of Two Sides noted that, “Many major U.S. companies have implemented credible sustainability initiatives that focus on true performance measurement and factual environmental claims. However, in some cases marketing seems to take the upper hand on science.”

Shortly after Two Sides challenged the “greenness” of e-billing, Raz Godelnik, a contributor to the website Triple Pundit (www.triplepundit.com), fired back at Two Sides in an article “A New Campaign Claims Paperless Billing is Not That Green.”

Godelnik does some digging and offered two life cycle assessments that compared paper billing to online billing — one study was prepared for Telstra, the Australian telecommunications and media company and the other conducted by two French researchers from the University of Technology of Troyes, comparing paper billing and payment to electronic billing and payment. In both cases, Godelnik noted, electronic billing came out on top as the environmental winner over paper billing.

Godelnik then charges, “…the main point is that it looks like Two Sides needs to make sure its claims are valid before asking companies to do the same.”

So who’s right?

In a response to Mr. Godelnik’s article, Phil Riebel posted the following explanation:

“Two Sides is well aware of the Life-cycle studies done in this field. Our goal is not to do life cycle assessments, but to encourage companies to carefully compare electronic communications to paper-based communications (using LCA) so that their communication choices are based on sound scientific evidence. We also believe that LCAs need to follow recognized standards and be peer-reviewed by an expert panel, as recommended by ISO (International Standardization Organization).

“The Two Sides campaign is aimed at identifying and eliminating environmental claims that are not factual and not substantiated. If a company decides to do a peer-reviewed LCA and finds e-billing to be more favorable then we are OK with that, as long as the sensitivity analysis is clear on when LCA results start favoring paper billing. As Mr. Godelnik notes, there are circumstances in the Telstra LCA when the global warming impacts of e-billing is greater. “The LCAs we have reviewed, including the Telstra study cited by Mr. Godelnik and others not mentioned in his article, have been available on the Two Sides website for some time. There is a great review by Dr. Peter Arnfalk on the environmental impacts of e-media and paper. This is a must read since it reviews several LCAs. Simply go to the [Two Sides website: www.twosides.us] Reports and Studies page (under Resources) and submit a search by clicking the “Life cycle Assessment” box on the right hand side of the page.

“It should be clear from Mr. Godelnik’s examples and the LCAs on the Two Sides website that such assessments are very case-specific, as they should be, due to the many variables that must be considered. LCAs are best used in
specific situations and the results of one study should not be used to generalize for all situations. This is one of the basic rules of life cycle evaluation and of environmental marketing when it comes to using LCA results.

“So, results depend on assumptions and data used in the LCA. All situations are different.

“Key parameters which greatly influence the magnitude of the environmental benefits are:

- Time spent on the Internet
- Printing frequency, no. of pages printed
- The number of online bills produced per year
- Whether IT infrastructure is used at capacity or not
- Amount of energy consumed by servers

“Two Sides’ position is that print and electronic media are complementary and should co-exist. It is not a question of paper or electronic, but rather which combination of the two has the least impact on the environment while meeting social and economic needs. Responsible environmental choices are based on factual and verifiable life cycle assessments of each alternative. Depending on the application, paper can be a better choice for economic/environmental reasons (as noted by Arnfalk).

“Print and paper have many unique environmental benefits that surface in a well done LCA, including renewability, recyclability and low carbon footprint in many cases. Paper also helps promote well managed working forests that are key to the US environment and economy. The answer to our environmental problems is not to replace highly recyclable and renewable products (from well managed forests) with ones that are not renewable, less recyclable and eliminate the need to manage forests. Our working forests rely on a sustainable forest products market. Without it, forest land will be sold and lost to malls, highways, agriculture…or server farms.

“The bottom line is that most companies don’t do LCAs, or even consider the impacts of electronic communications prior to making negative claims about paper. They also typically don’t consider the fact that many people print at home or at work so that they have a record. In other words, the life cycle is often not paperless. In many cases, the use of paper has just been shifted downstream to the consumer. A study by NACHA — The Electronics Payment Association recently found that up to 40% of people who use e-billing also receive paper copies in the mail.

“Furthermore, we are not asking companies to drop e-billing and go back to paper billing, as Mr. Godelnik suggests. E-billing has many benefits that I personally find useful. We are simply saying don’t paint paper as a bad product with more negative impacts than e-billing unless you have studied the matter carefully and have the backing of a credible third party. Companies should also stick to the basic rules of environmental marketing before they tout the environmental benefits of one product or service over another.

“The ISO 14020 series of standards (esp. ISO 14021) are good documents that outline best practices for environmental claims and declarations. Other good resources on best practices for environmental marketing can be found on the Two Sides website under “Resources / Reports and Studies.” They include: US FTC Green Guides, CSR Europe’s Sustainable Marketing Guide, and DEFRA’s Quick Guide to Making an Environmental Claim,” Riebel concluded.

Regardless of which side of the paper fence you stand on, the debate over the environmental merits of paper and electronic documents of all forms brings to life some compelling dialogue. And what may be by far the most valuable development as a result of these deliberations, becomes the knowledge gained by everyone who educates themselves on the topic and wades into the discussion. ■
Groundwood Paper Capacity a Key Wild Card as Producers Battle Sluggish Demand

Demand for both coated and uncoated groundwood grades continues its secular decline and in some grades the rate of decline has accelerated. Nevertheless, hope springs eternal as the fall catalog season could bring a boost to demand and a much needed price increase. The direction of the market and any change in pricing, however, could be determined in large part by the state of idled capacity, particularly for supercalendered (SC) grades.

By Harold M. Cody

Today’s market for groundwood grades appears to have a little bit in common with the game of Russian roulette. In roulette, chance is the overriding factor in what happens next. You can bet the odds on whether the next round results in a bullet or not, but other than that it’s impossible to predict the outcome.

In the case of the North American market for groundwood papers — both coated and uncoated grades — the similarity lays in the fact that a major factor determining the direction of the market is the highly unpredictable nature of capacity. Mills and consumers alike can analyze key indicator and supply and demand data all they want and make lots of forecasts and predictions on trends, etc. But it may all just come down to whether or not one or two major mills restart or not and when they restart. In one case the mill in question faces an array of financial hurdles and other factors not related at all to the paper market. And that is precisely why the outlook is so hard to predict. In another, the timing is more determined by operational and mechanical issues as an accident caused the shutdown.

Demand Continues Contracting

If you just look at the numbers, which range from terrible to just poor, there isn’t anything surprising so far this year. North American demand for printing and writing papers, including uncoated groundwood grades such as SC-A, lower quality machine finish grades and lightweight coated papers, continues to decline. Through the first seven months of 2012, total printing and writing paper demand is down 6.9% to 13.1 million short tons, according to the Pulp and Paper Products Council (PPPC), with shipments off 7.1%.

The largest decline year to date has been for uncoated mechanical demand, down almost 17% to about 2.4 million tons. Shipments of uncoated groundwood are off by 17%, reflecting not only market weakness but also a significant decline in capacity. Coated groundwood demand, by comparison, is doing better, but demand is still off by 3.3% vs. last year at about 2.4 million tons. Shipments are off by just 3.4%. Operating rates over the same period are reported at 92% and 89%, respectively, for uncoated and coated groundwood papers.
The decline in demand isn’t a surprise to anyone that has been following the market in recent years. Various sources are predicting a decline in coated paper demand in the 4% to 6% range overall this year. Coated freesheet demand year to date is off by about 6%. The drop is a continuation of the trend that began several years ago, acerbated by the recession, as key groundwood paper end-uses such as magazines continue to suffer, as advertising continues to decline and readers shift away from print products.

Other key advertising driven end-uses such as retail newspaper inserts and catalogs, all of which are key groundwood paper markets, are also contracting.

Uncoated demand, as noted, has declined far more than other grades, as demand by catalogs, a key market for SC and other grades, has plummeted, down almost 20%. It’s also reported that the extreme financial pressure felt by printers has led them to downgrade from higher quality grades to newsprint and lower quality MF grades. Giving credence to this are data on newsprint use, where non-daily newsprint consumption is reported to be up by almost one-third based on PPPC data through April 2012. Magazine advertising pages are off about 7% through the first half of the year. Magazines are the largest use for coated groundwood grades, notably LWC grades, accounting for almost half of consumption.

**Pricing and Capacity**

Prices haven’t moved much in recent months but producers are attempting to reverse that and have announced increases recently. If demand is given a boost by the fall catalog printing season, the increases might have a chance at success, in particular since most mills continue to lose and struggle financially.

Prices have remained surprisingly stable over the last few months due to the fall in supply for almost all groundwood grades. LWC prices dipped some in July, but looked a little better in August.

Coated groundwood capacity in the U.S. has slipped steadily over the last five years, dropping by almost one quarter according to AF&PA and industry estimates, to just over 3.5 million tons.

Recently, LWC and SC capacity was reduced by the unplanned and now permanent shutdown of Verso’s Sartell, MN mill due to an explosion and fire last May which removed 180,000 tpy of capacity. Other coated groundwood capacity withdrawals that have helped to sustain operating rates include the removal of 90,000 tons by Verso at the Bucksport in late 2011 and 150,000 tpy by Resolute at the Catawba facility this past summer. The situation is similar in Europe where almost one million tons of coated groundwood capacity was closed in the last year.

There is some evidence that the hoped-for seasonal uptick in demand may improve the coated mechanical market. Demand in July was actually up 2.5% compared to July 2011, and shipments were only down by 1.3% compared to year earlier levels.

As noted above, the fluid state of capacity is really hard to predict, in particular in the case of the proposed restart of the 360,000 tpy Port Hawkesbury (Nova Scotia) SC mill, which was shut down last fall. The restart could undermine any chance of a price increase as it represents a significant portion of overall capacity — about one-third — in this grade. The restart isn’t based on market factors but on financial and political ones, making it anyone’s guess as to whether it will occur. Some sources don’t think that the restart will have a major impact on the market while others believe it will. Sure seems like to me that a one-third increase in capacity would have an impact.

While the overall outlook on the demand side remains pessimistic, hope remains that a seasonal boost to demand coupled with recent capacity adjustments may support a price increase. The increase, if it occurs, will likely be fragmented both in terms of the amount and timing, given all the ups and downs of each individual market segment and grades.

In late August, major producers announced a $60/ton price increases on coated groundwood grades and $40 on supercalendered grades effective in October. It’s been reported that a July increase on coated groundwood has been partly implemented, which raised prices by about $20 per ton. Average prices for LWC roto grades were about $975/ton with SC-A grades going for about $845/ton at the end of the summer.

Producers have worked hard to manage supply and thus the announced price increases, particularly for LWC, have a good chance to succeed. But it still may come down to chance — when and if idled capacity is brought back online.

Harold Cody is a contributing writer for PaperAge. He can be reached by email at: HCody@paperage.com.
heads up

Europe: A Mid-term Report

My paper industry forecast at the beginning of the year (PaperAge, Jan/Feb. 2012) was a grim one apart from the tissue and packaging sector. A double-dip recession has tipped the Eurozone further down the slope. Pulp and paper companies are struggling to survive — some being successful, others not so much.

By David Price

The scene is familiar: governments are broke, national debt is stratospheric, public services are cut, firms close, jobs are lost, and utility prices and taxes are hiked. So how do you survive and, equally important, make a profit?

The industry has deployed several strategies since the recession began some five years ago.

Cuts and Closures

In August of 2011, UPM announced plans to permanently remove 1.2 million tons of magazine paper capacity in Finland, Germany and France, and 110,000 of newsprint capacity in Germany. UPM’s CEO Jussi Pesonen said that sales of paper, timber and plywood have dropped steadily by 10% since 2007. The company’s plan is to sell some of these operations and invest the cash flow in the more profitable businesses.

Jouko Karvinen, CEO of Stora Enso, announced production cuts in printing & writing grades and building timber. He points to the weakness of the Eurozone markets and the “…ongoing structural change towards digitization of media and advertising that we have seen in Europe since 2007.”

Karvinen’s message is a tough one. “Operationally, every business area needs not only to complete the announced restructuring programs and the, literally, hundreds of cost and productivity improvements, but also to add more of them and implement them faster,” he explained. In addition, Stora Enso will “…continue to adjust manufacturing capacity to the market demand.”

Norwegian paper producer Norske Skog has agreed to sell its Parenco paper mill (newsprint and magazine papers) and its recovered paper business Reparco, in the Netherlands, to a private equity firm which plans to convert the mill’s two paper machines to packaging grades — but only if the market is there for the new grades. However, the company still faces weak demand for newsprint and magazine paper in both Europe and Australasia.

Diversification

Some of the directions the industry is moving into would puzzle industry veterans. UPM is moving a significant part of its operations into biofuels and nuclear power generation. It has a partnership with the Finnish national energy company, TVO.

Stora Enso is moving into packaging grades for ‘high-return growth markets’ in Europe, Latin America and China.

European tissue maker SCA has steadily and profitably moved away from pulp and paper grades into a full range of hygiene products — from forest to washroom. All that’s left of its packaging business is two kraftliner mills in Sweden.

SCA’s CEO, Jan Johannson, in a first half financial report, said profits for personal care and tissue rose 34% and 53% respectively, while profits for forest products fell 34%.

Nearly every forest products company in Europe has plans for biofuel production. But it will not be the gold standard performer for our industry that some of us expect. There will be too much competition from authentic energy
companies like Shell, Texaco and BP, and in the scramble for state subsidies there is too much confusion, red tape and sheer inaccuracy within the funding authorities. The forest industry has no real experience in unlocking these sectors.

**Emerging Markets**

Two of the big “emerging” markets I’ll mention are China and Latin America. Stora Enso is expanding pulp production in Montes del Plata, Brazil, and in Guangxi, China. UPM is expanding its pulp, paper and label operations in China and Uruguay. As a result of steady acquisitions, SCA is now deeply embedded in China, Taiwan, Southeast Asia and Chile. Ilim Group’s new pulp mill in Bratsk, Siberia will feed the Chinese market. As I wrote in my Jan/Feb. 2012 column, China’s demand looms over every sector of the European pulp and paper industry, and it’s not going to go away anytime soon.

**Printing Industry Link**

I follow the printing sector closely but rarely comment on it. Seeing that it is an end-user of the paper industry’s products, its health is very important to us. A recent survey of printers in August by the UK business magazine, *Economist*, had this to say: “An industry that has raked in fat profits for years is struggling. Plunging circulation has forced many newspapers and magazines to shut. Survivors are seeing readers increasingly opt for screen over inky paper, so media companies are printing fewer and slimmer physical copies. Rising online sales and wobbly economies mean that retailers are not ordering catalogues and marketing materials as they once did. The rising cost of paper has not helped.”

Many printers have gone out of business. In the US, the top 400 printers have less than 30% of the market. The Schlott Group in Germany has folded. Robert Picard, a media economist, says the outlook for newspaper printers is grim whereby advertisers are now keener to run their ads in magazines on high-quality glossy paper than in newspapers. Tom Quinlan, CEO of RR Donnelley, a large US printer, sees a freight train heading his way.

My point is this: the current problems in our industry are very closely linked in an uneven chain stretching from government policy, through financial markets, to producers and consumers. So until further notice, our industry has to look after itself.

David Price is a contributing writer for PaperAge. He can be reached by email at: DPrice1439@aol.com.
Port Alberni’s TMP comes from a single pressurized ANDRITZ Twin 60 line (primary and secondary refiner). Original motor size was 22,000 HP. As part of the project, the motors were increased to 34,000 HP.
Port Alberni Tops Production

The Port Alberni mill in Canada has been an important fixture in the community since 1947. Today it is a leading North American supplier of lightweight coated and directory papers. The TMP furnish is supplied by a single Twin 60 refiner line from ANDRITZ. A project to super-size the line challenged everyone involved.

By Robert Puhr

When the TMP line at Port Alberni was first built in 1989, the chip feeding and the building were sized for two lines to allow for expansion. “Even though we now needed more tonnage to feed our paper machines, we did not have the capital for a second line,” says Jason Seabrook, Mechanical Pulping Manager. “We had to play the cards that were dealt us.”

The need for tonnage was sparked by a decision to shut down the groundwood mill and restart a paper machine. “We needed to lower our cost structure considerably and get extra production at the same time,” Seabrook says.

How Seabrook and his team were able to do that — and bring the project in under budget while setting a world production record for a single two-stage Twin 60 refiner line — makes an interesting story.

From the beginning

With capacity to produce 337,000 tpy of specialty papers, Port Alberni contributes greatly to Catalyst Paper’s position as one of North America’s largest mechanical paper producers. The TMP comes from a single pressurized ANDRITZ Twin 60 line (one primary and one secondary). Original motor size was 22,000 HP. Two ANDRITZ model 45-1B refiners with 4,500 HP motors handled the rejects. In 1995, a third reject refiner was added and the primary and secondary motors were upgraded to 26,000 HP each. Production averaged 520 t/d.

The Twin 60s had more to give, according to Larry Nemeth, ANDRITZ’s Manager of Upgrades for Canada. “They are hungry machines,” he says. “The more you feed them, the better they perform. The secondary refiner didn’t seem to want to stop, so the limit was the motor.”

No margin for error

“When we started this project in 2007, PM4 was down,” Seabrook says. “And, our cost structure was just too high. On one side, we decommissioned the groundwood mill. On the other, the company pledged to invest in the TMP plant so that PM4 could be restarted. There was a buy-in from everyone to save this mill.”

First decision was to replace the 26,500 HP refiner motors with 34,000 HP units to get the tonnage. This would mean increasing the loading from 20 to 26.5 MW per refiner with load-splitting. “We were banking on the ability to maintain a 50-50 load split between primary and secondary all the way up to 26.5 MW,” says Kelly Sasaki, Technical Specialist. “Of course, no supplier would guarantee that, because it had not been done before. But we had to take the risk.”

“We were banking on the ability to maintain a 50-50 load split between primary and secondary all the way up to 26.5 MW. We felt we had to take the risk.”

— Kelly Sasaki, Technical Specialist, Port Alberni (right)

“We are achieving high production at low freeness with only two stages plus rejects. This has to be one of the most energy-efficient TMP plants in the world.”

— Jason Seabrook, Mechanical Pulping Manager, Port Alberni (left)
With this decision in place, the Port Alberni team looked at each piece of equipment to see if it could handle the additional throughput. As Sasaki says, “ANDRITZ was very helpful during this phase. They provided us with a lot of information about the equipment and capacities. They were very upfront about the risks.”

Nemeth recalls, “We went through everything — steam flow velocities, cyclone sizing, blowline sizing, everything — to see how far we could push. Most of the equipment could handle the throughput, albeit everything would be pushed to the limits. But there were some components (cyclone tops, Impressafiner motors, plug screw discharger, decker) that would have to be upgraded.”

Keep in mind this is a one-line mill. “There is no margin for error,” Seabrook says. “With a 4-5 hour inventory buffer of the time, we operate in the 95% efficiency range just to keep up with the paper machines.”

**Step changes**

“We knew that the ANDRITZ equipment was going to be applied beyond normal design parameters,” Seabrook says. “We relied heavily on their experience, but we assumed the risk. We’ve been working with ANDRITZ for many years, so this is a relationship built on trust.”

In the design phase, ANDRITZ and Catalyst determined what each piece of equipment could theoretically do. But as Seabrook says, “When you put the pieces into a system and start it up, new dynamics — steam flows, pulp quality, etc. — now come into play.”

As Norm Webster, ANDRITZ District Sales Manager, puts it, “This line is sized to the max. It’s like driving a car at top speed every day. So, yes, there were going to be some problems to solve.”

“With a very small internal team,” Sasaki says. “All of us, including ANDRITZ, worked together to solve each problem as it came up.”

In 2008, the mill took an extended shutdown to replace the motors and upgrade some of the line components. The refiners stayed in place.

The target from day one was to run a single two-stage line with rejects at high output (90%+ of maximum), low freeness, and high efficiency (95% or higher).

First the good news. “The new motors were rock solid,” Seabrook says. “No more problems with stops/starts and vibration. We answered the question whether we could load-split the refiners as we were hitting 25-26 MW right from the start. We were off to the races and could sleep at night.”

The first challenge was plugging of the screens. “We thought we were making bad pulp at start-up,” Sasaki says. “But the wider foils we selected for the rotors — theoretically a better choice for our higher capacity — did not work well with the coarser pulp we produced at start-up. When we went back to narrow foils, the problems went away.”

**High precision rebuild**

Second challenge: a primary refiner that was sticking and “going through plates like crazy” according to Seabrook. “We had ANDRITZ rebuild the refiner and that gave us a step change in performance,” he says.

Nemeth offers some details, “The old Twin 60s are more complicated in that there are several large metal components sliding together. In some cases, because of the loose tolerances, the refiners will not self-align. This results in out-of-tram conditions, sticky plateholders, refiner instability, plate clashing, and sealing problems.”

The solution was an ANDRITZ high precision rebuild, where the majority of refiner parts are machined to the drawings and assembled, but the critical parts are precisely measured to fit the exact machine. “The result is a refiner that is in-tram from the factory with no more sticking,” Nemeth says.
Commander conquers clashes

The next challenge: “We were making the tonnage and setting records, but were chewing up plates,” Seabrook says. “We worked with ANDRITZ on plate design and changed the taper on the plates. The loading immediately steadied right out. That was a huge benefit.”

“We reached a record production of 650 t/d with this setup,” Sasaki says. “The process was stable and had the quality to go with it. But we were experiencing too many clashes. The culprit was the old hydraulic system. We needed a state-of-the-art system.”

Port Alberni was the first in North America to install the ANDRITZ Refiner Commander. “I admit that I was nervous about being the first to try something for a single line,” Seabrook says. “It was all or nothing.”

Webster explains the concept, “In theory, the sliding plateholders on each end of a Twin refiner should move the same distance toward the non-rotating plates. In practice, if the plateholders are not parallel, one side will stick. This means the other side has to move further. Since hydraulic oil follows the path of least resistance, it will move to the side with the least resistance, forcing a clash into the non-rotating plate.”

The Refiner Commander’s plate positioning sensors and dual servo split the Twin refiner’s hydraulics into two separate loops which can be controlled independently. “The result is less clashing, better performance, and phenomenal plate life,” Webster says.

“The last two plate changes (10 weeks between changes) look like there was zero clashes,” Sasaki says. “Even with the loading we put on these refiners.”

Port Alberni was the first in North America to install the ANDRITZ Refiner Commander. The plate positioning sensors and dual servo split the Twin refiner’s hydraulics into two separate loops which are controlled independently. “The result is less clashing, better performance, and phenomenal plate life.”

— Sandy Shearer, CTMP #1 Operator

More to go

As Seabrook says, “We haven’t hit our peak yet. The target is to run at 650 t/d at 70 CSF. Our best day has been 659 t/d and our best week has been 637 t/d at an average 75 CSF. Some of our paper specs have changed, so there are days when we don’t need as much tonnage. We still load our motors to produce at 65 CSF, making better quality.”

Lower costs, higher performance

“There has to be a big benefit to justify taking a big risk,” Seabrook says. “In my opinion, this project saved our mill — that is a huge benefit.”

The Port Alberni line normally runs 97-98% efficiency (with inventory curtailments removed). Forced maintenance shuts are very rare. “We are achieving high production at low freeness with only two stages plus rejects,” Seabrook says. “This has to be one of the most energy-efficient TMP plants in the world. The higher we run the refiner, the more efficient we get.”

Robert Puhr is president of Ad Hoc Communications, a marketing and media firm with extensive experience in the pulp, paper, and power industries. He can be reached at: robert.puhr@andritz.com.

Text and photos courtesy of ANDRITZ.

Photographer: Andrew Klaver.
Optimized Water Management

By reducing a paper mill’s consumption of fresh water and raw materials, papermakers can promote sustainable production, while also saving energy and money, without compromising product quality.

By Tuija Kuula

Paper mills have significantly reduced their use of fresh water over the past few decades. This is due to many reasons, including the limited availability of fresh water, increased cost of effluent and fresh water treatment, tighter environmental legislation, or even the desire to improve a mill’s public image in some cases.

This lower fresh water consumption has been not only facilitated by the reuse of process water, but also by a better understanding of process chemistry. Nearly every mill recognizes water emissions as a problem area. However, these environmental loads can be reduced by modifying and developing traditional papermaking processes.

GOOD WATER MANAGEMENT IMPROVES MILL EFFICIENCY

Today’s demand for better product quality and the increased use of recycled fiber both require higher quality process water for good machine runnability. Our focus has to shift from individual process components to the overall quality of process water.

The goal is to master the whole papermaking line (machinery, equipment and processes) in detail. Papermakers have to understand the big picture all the way from fresh water treatment and internal water circulations, up to the purification of effluent. Water management means planning, developing, disseminating and managing the optimal use of water — under applicable water policies and regulations — throughout an integrated paper and pulp mill complex. The primary challenges in water management include environmental legislation, cost-effectiveness, and runnability. Optimized water management helps to support an efficient papermaking process.

Whether and how to close a mill’s water system depends on the types of technology it is prepared to use. Along with the economics of the investment, papermakers also need to consider potential disadvantages low fresh water consumption might entail.

Every papermaking line has its own minimum level of fresh water consumption that can be achieved with conventional process solutions. This level is reached when process engineering is based on the best available technology.

The closing of water systems has to be carried out without any negative effects on paper machine runnability, final product quality, or the environment. This means that the water used needs to be as close to fresh water in quality as possible.

REDUCING FRESH WATER CONSUMPTION BY 1,500 M³ PER DAY?

The less water a mill uses, the more it helps to conserve the environment, while reducing water treatment costs. By using Metso’s ultrafiltration technology, papermakers can purify their paper machine’s clear filtrate and use it instead of fresh water. Fresh water consumption will be reduced, as well as the amount of waste water. If fresh water needs to be heated, savings will also be achieved through lower heating costs and related airborne emissions.
Figure 1 shows how a 25% reduction in total water-related costs can save one million euros per year. Actual savings naturally depend on local unit costs.

**WATER MANAGEMENT CONCEPTS FOR A VARIETY OF NEEDS**

The key to water and effluent cost savings is an efficient water management concept. Metso has developed a full range of water management concepts for different paper grades and fresh water consumption levels. They are all based on extensive know-how accumulated through reference projects, process evaluations and simulation studies at many paper and board mills around the world.

Process evaluation studies and the benchmarking of similar machine lines have enabled Metso to evaluate a multitude of targets, technologies, successful solutions, and possible improvements. This prior experience is invaluable when carrying out a feasibility study or the pre-engineering stage for a project.

**STEP BY STEP TOWARD COST SAVINGS**

Figure 2 explains how to proceed with new or existing papermaking lines. Water management has an effect on the whole papermaking line. The paper machine and stock preparation must always be considered as one integrated system.

With existing papermaking lines, we need to know the background of a problem before we can solve it. This means gathering information from different processes and considering a variety of solutions from every possible angle. If you do not understand the overall system, your efforts to solve a specific problem may actually create more problems.

Process evaluation studies at the mill, including the taking and analysis of samples, are carried out when process chemistry needs to be clarified. Process chemistry can provide an indication of what might be wrong.

It is up to the papermaker to decide whether he or she wants to address possible problems maintaining the mill’s present fresh water consumption, or whether to reduce its fresh water consumption while retaining current machine runnability — or perhaps even improving it. It does not matter whether or not we are talking about a new or existing papermaking line since the process concept, equipment and process connections employed should always be based on the targets set. This is the best way to control lifecycle costs.

Optimized process conditions and major savings cannot be achieved immediately after startup. They are attained a bit later when the process conditions are stable and water treatment processes are operating at their maximum capacity.

**LESS FRESH WATER MAY MEAN MORE PROBLEMS**

Many liner and fluting mills have closed their water cycles in recent years and are now using about 4 to 6 m\(^3\) of fresh water for each metric ton of paper they produce. However, this reduction in fresh water consumption comes with some problems which start to appear right at this level of closure.

The paper produced and white water may acquire an unpleasant odor. Corrosion and slime buildup may also occur. Most of these problems are caused by the growth of microorganisms in the white water system, which feed on organic compounds accumulating in white water due to increased closure.

One common solution to these problems has been to dose white water with more biocide in order to prevent the growth of microorganisms in the system. Although this solution works, it increases chemical costs.

**INTERNAL KIDNEYS PURIFY WHITE WATER**

Metso’s solution is to treat white water with ultrafiltration technology or microflotation — so-called internal kidneys — to reduce the accumulation of harmful substances and prevent their uncontrolled growth in the water system. The term “internal kidney” refers to the functional similarity of human kidneys and the in-mill treatment process. The idea is to incorporate an internal kidney system directly in the paper mill’s white water circulation.

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**Significant reduction in costs**

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25% reduction in total water-related costs = €1 million/year

- CO\(_2\) emission costs; 20 €/t
- Waste water treatment costs; 0.5; 20 €/m\(^3\)
- Fresh water treatment costs; 0.5; €/m\(^3\)
- Fresh water heating costs; 0.9; €/m\(^3\) (30/€/MWh)

---
The purpose is to reject unwanted compounds in white water that would otherwise affect the production process. In the past, some white water was discharged from the process and replaced with fresh water. With today’s ultrafiltration technology, white water can be returned back in the process, which reduces both fresh water consumption and the amount of waste water generated.

**LESS BIOCIDE**

Metso’s liner and fluting concept also includes microflotation for press section waters to remove fines and pitch that would otherwise accumulate in the water system.

One important part of Metso’s solution to purity problems is to treat white water in an internal biological treatment plant. Efficient biological treatment is needed — with a sufficient amount of biofiltrate recycling back to stock preparation — in order to maintain a constant process water balance and control COD and Ca levels.

This method has also helped to cut the use of biocides to a fraction of typical levels. Ultrafiltration technology removes all bacteria, colloids, and solids from white water. In Metso’s latest findings, liner and fluting mills have been able to limit their fresh water consumption by about 1,500 to 2,000 m³ per day by replacing warm fresh water for the forming section’s high-pressure showers with ultrafiltrate.

In these cases, the mills chose Metso’s reduced fresh water consumption concept with ultrafiltration technology, microflotation and biofiltrate recycling (see Figure 3). This concept gives the mills good runnability, combined with a low fresh water consumption level.

**COMPETITIVENESS AND SUSTAINABILITY GO HAND IN HAND**

The success of Metso’s water management concepts is based on a proprietary countercurrent application, internal kidneys at the paper mill and stock preparation, and a comprehensive set of water treatment and handling expertise. Computer simulations with mathematical models have been an important tool in evaluating different concept alternatives.

By choosing and installing the appropriate water management systems, papermakers should be able to cut production costs and save natural resources, while enhancing competitiveness, product quality and machine runnability.

*Tuija Kuula is Senior Process Specialist, Paper business line for Metso. He can be reached at: tuija.kuula@metso.com.*
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<thead>
<tr>
<th>COMPANY</th>
<th>Page</th>
<th>WEBSITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF&amp;PA (Paper2013)</td>
<td>21</td>
<td><a href="http://www.paper2013.com">www.paper2013.com</a></td>
</tr>
<tr>
<td>Buschman Corp.</td>
<td>17</td>
<td><a href="http://www.buschmancorp.com">www.buschmancorp.com</a></td>
</tr>
<tr>
<td>Edwin X. Graf</td>
<td>29</td>
<td><a href="mailto:headbox@aol.com">headbox@aol.com</a></td>
</tr>
<tr>
<td>Eka Chemicals</td>
<td>32</td>
<td><a href="http://www.akzonobel.com/eka">www.akzonobel.com/eka</a></td>
</tr>
<tr>
<td>Fluoron Inc.</td>
<td>13, 31</td>
<td><a href="http://www.fluoron.com/pnp_index.htm">www.fluoron.com/pnp_index.htm</a></td>
</tr>
</tbody>
</table>

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<th>COMPANY</th>
<th>Page</th>
<th>WEBSITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro-Flo Systems</td>
<td>29</td>
<td><a href="http://www.papermachine.com">www.papermachine.com</a></td>
</tr>
<tr>
<td>Metso</td>
<td>2</td>
<td><a href="http://www.metso.com">www.metso.com</a></td>
</tr>
<tr>
<td>RBW Associates</td>
<td>29</td>
<td><a href="http://www.rbwassoc.com">www.rbwassoc.com</a></td>
</tr>
<tr>
<td>Thiele</td>
<td>5</td>
<td><a href="http://www.thielekaolin.com">www.thielekaolin.com</a></td>
</tr>
<tr>
<td>Xerium</td>
<td>7, 9, 11</td>
<td><a href="http://www.xerium.com">www.xerium.com</a></td>
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EOE/AA
Researchers at WIST Gain Patent on Process to Separate Biomass into Pure Cellulose and Lignin

WIST researchers develop a lignin-solvent process that results in a purified lignin and pure cellulose.

A patent that opens the door for the creation of biofuels from abundantly available plant fiber has been issued to researchers at the Wisconsin Institute for Sustainable Technology (WIST) at the University of Wisconsin-Stevens Point.

WIST’s first patent is for a process that makes biofuels and other products from cellulosic plant material, including agricultural residues such as corn stover or plants grown specifically for fuel production, such as hardwood and softwood trees. The process is also a key step in making other high-value bioproducts.

“This gives us an economically viable way to use grass, trees or wood waste to make renewable fuels and chemicals,” said Eric Singsaas, Director of Research at WIST, associate professor of biology at UW-Stevens Point and co-inventor of the process, along with Don Guay, associate professor of paper science and engineering. “It also gives us a method to commercialize some of the work we’ve done at the university.”

With its focus on interdisciplinary, collaborative work on creating sustainability solutions for business and industry, WIST is working with the UW’s WiSys Technology Foundation to license the intellectual property to private industry for development.

The patent protects a method that uses an aqueous solvent to separate biomass into pure cellulose and lignin, the substance that gives woody biomass its rigidity. The lignin-solvent mixture can then be separated from the water to form a high-energy-density fuel that can be used independently or combined with biodiesel.

The pure cellulose can be used conventionally, such as in paper making, or it can be converted to fermentable sugars. The sugars can be used to make biofuels but can also be used to make other renewable chemicals for industry including isoprene, currently derived largely from petroleum and used in the making of rubber, plastics and pharmaceuticals.

“We’re not just making fuel,” Singsaas said. “We’re making value-added products.”

Other techniques exist to separate lignin from cellulose and have long been used in the paper industry. However, these traditional processes result in cellulose that contains inhibitors that make it more difficult to convert it to sugars. Similarly, the lignin produced contains additional chemicals not easily or economically separated.

WIST’s lignin-solvent process results in a purified lignin and pure cellulose. Besides being easier to convert to biofuels, the pure materials are more readily useable to produce other renewable chemicals. In conventional paper plants, the lignin typically is burned to recover the inorganic chemicals from the pulping process and for energy. But Guay says there may be higher-value applications for the pure lignin recovered in the WIST process.

“Down the road there are potential uses for that lignin,” Guay said. “It may be used to make carbon fiber, for example. As an added bonus, the new lignin-solvent process can regenerate the solvent to make the overall process self-sustaining.”

The lignin-solvent process is just one aspect of the WIST biofuels project. The goal is to develop a biorefinery that could be fitted to existing paper mills or give new life to idled mills.

“We designed this specifically so you could do this by minimally modifying paper mill infrastructure,” Singsaas said. Mills would gain additional revenue sources, add jobs and help grow the regional economy.

“We’ve done this process in the lab,” Singsaas said. “We’ve done it at a small pilot scale. The next step is to seek partners to develop this into a demonstration-scale plant.”

The Wisconsin Institute for Sustainable Technology at the University of Wisconsin-Stevens Point provides research, education and services to improve Wisconsin’s long-term environment and economy through collaboration of educators, students and researchers. For further information, visit: www.uwsp.edu/wist.
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