MARKET PULP
Weakening demand has pushed inventories higher and prices lower. A market correction? Or sign of things to come?

TISSUE: Going Global
Markets around the world are growing and big tissue producers are in hot pursuit.
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For more information please contact your salesperson or email: fulfill@mineraltech.com
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The Reality That’s China

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

According to a report from the Economic Policy Institute (EPI), nearly 2.8 million U.S. jobs have been eliminated or displaced since 2001 due to the widening U.S.-China trade deficit.

The report, Growing U.S. trade deficit with China cost 2.8 million jobs between 2001 and 2010, by Robert Scott, EPI’s Director of Trade and Manufacturing Policy Research, shows the trade deficit with China grew from $84 billion in 2001, when China entered the WTO, to $278 billion in 2010. It eliminated or displaced 2,790,100 jobs, or about 2% of total U.S. employment over that period. Of the nearly 2.8 million jobs lost or displaced, 1.9 million of them were in manufacturing — a figure that represents nearly half of all U.S. manufacturing jobs lost between 2001 and 2010, the report notes.

Turning our attention to the paper industry, China has become the largest producer of paper in the world and the second-largest exporter (behind Canada) to the U.S., according to the U.S. International Trade Commission. In 2010, the U.S. imported $2.7 billion in paper from China, but exported $2.1 billion in paper back.

Production of paper and paperboard in China nearly tripled from 2000 - 2009, increasing from 34.7 million metric tons in the year 2000 to 93.9 million m/tons in 2009. I couldn’t find the production figure for 2010, but with China’s aggressive capacity expansion plans, the number should be well over 100 million tons.

In another report from EPI, No Paper Tiger, research associate Usha C.V. Haley writes, “...in December 2009, the Chinese government announced new policies for continued support of its paper industry. Data show that the Chinese paper industry will continue to expand for at least the next three years based on current policies and planned expenditures. Indeed, in 2009, Chinese paper-production capacity grew 21.5% over the previous year, despite the global economic slump.”

Haley goes on to surmise, “The saturated Chinese market for paper cannot absorb present or planned output of Chinese paper. Consequently, one can reasonably assume that exports have driven the growth of China’s paper industry.”

Haley points out the contrast between the world’s two largest papermaking industries noting that U.S. paper mills have shrunk with drops in output, employment, revenues, and number of companies, corresponding to the rise in Chinese imports. “Imports from China are rising faster than those of any other country for this industry, with the value of U.S. imports from China growing at an annualized rate of 22%,” Haley notes.

So how did this happen? An idealistic WTO agreement that envisioned an evenly balanced flow of trade between China and the U.S. — the allure being China’s burgeoning population in need of imported goods.

As Robert Scott explains, “China’s entry into the WTO was supposed to bring it into compliance with an enforceable, rules-based regime that would require China to open its markets to imports from the United States and other nations by reducing tariffs and addressing non-tariff barriers to trade.”

Much of this never took place, and coupled with China’s manipulation of its currency, the deal has been a colossal loser for the U.S. and other countries.

Unless our policymakers are able to firmly grasp reality and take action to reverse this trend — passing H.R. 639, the Currency Reform for Fair Trade Act would be a good start — it won’t be long before the U.S. becomes a larger version of Greece.”
If you had to choose a kaolin supplier based on one quality, which would you choose?

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Verso Paper to Reduce Capacity, Shutting Down Three Paper Machines

Verso Paper in mid-October announced that it will permanently reduce its annual production capacity by 193,000 tons. As a result, the company permanently shutdown the No. 2 coated groundwood paper machine at its mill in Bucksport, Maine on October 23.

In addition, two supercalendered (SC) paper machines at Verso’s mill in Sartell, Minnesota will be shutdown on December 14.

The shutdown of the No. 2 paper machine at the Bucksport Mill reduces Verso’s annual coated groundwood capacity by 90,000 tons or approximately 10 percent. With an annual capacity after the shutdown of 925,000 tons, Verso will remain the second largest producer of coated groundwood paper in North America.

Some 125 employees at the Bucksport Mill were affected by the machine shutdown.

The shutdown of the No. 1 and No. 2 paper machines at the Sartell Mill will eliminate approximately 103,000 tons annually of SCA and SCB paper capacity. The Sartell Mill’s workforce will be reduced by approximately 175 employees.

“While improved from the recent lows of 2009, demand for coated groundwood papers continues to face headwinds,” said Verso President and CEO Mike Jackson. “The cost structure of the No. 2 paper machine at Bucksport, continuously rising input costs and these headwinds resulted in this decision to permanently reduce our coated groundwood capacity. This is consistent with our continuing commitment to match supply with customer demand. The demand for supercalendered papers remains fairly stable in the marketplace; however, despite our employees’ diligent efforts, the cost structure of the two SC machines to be shut down at the Sartell Mill remains unfavorable.

“The decision to permanently reduce production at Bucksport and Sartell was difficult and we are mindful of the impact it will have on the affected employees and their families,” Jackson added. “I want to express my sincere gratitude to the affected employees for their years of service to Verso, and to recognize all Bucksport and Sartell employees for their hard work and continued focus on safety in the workplace.”

Mohawk Fine Papers to Close Beckett Mill in Ohio

Mohawk Fine Papers said that it will close the Beckett Mill in Ohio at year-end.

“In a move designed to realign our manufacturing platform to meet the needs of a changing market, Mohawk Fine Papers has announced [Oct 24] that it plans to close the Beckett Mill in Hamilton, Ohio at the end of the year. The shutdown would include the mill’s three paper machines and would affect 137 union and salaried employees,” said Mohawk’s CEO Tom O’Connor.

“This was a very difficult decision. Our employees at Beckett have done everything asked of them and we are grateful for their efforts and contributions. Our decision reflects the realities of today’s market and our belief that the changes in communications technology and print impacting our businesses are both fundamental and permanent.

“Mohawk expects uninterrupted supply as we transition manufacturing of current products from Beckett to our paper mills in Cohoes and Waterford, New York. We will continue to operate our envelope, converting and warehouse/distribution facilities in Saybrook, Ohio, along with warehouses in California, Washington, New York, and the Netherlands,” O’Connor said.

The Beckett Mill has a production capacity of 65,000 tpy of uncoated freesheet.

West Linn Paper Company to Invest $3 Million in Major Capital Improvement Projects

The West Linn Paper Company will be investing over $3 million in major capital improvement projects that will get underway in the first half of 2012. The company has committed to several projects but the two most prominent will focus on increasing production and energy conservation.

One of the two projects will address moisture content and sheet strength on the mill’s #1 Paper Machine and is expected to improve the quality of the mill’s heavyweight products, while increasing production on this machine by 13% or more. The #1 Paper Machine produces coated free-sheet web rolls that range from 70# - 146# basis weights, as well as matte reply card.

The second of these planned projects will provide cleaner whitewater that will better enable reuse throughout the mill and reduce associated heat loss to the effluent. This project is expected to reduce fuel costs and has the potential to reduce effluent flows by as much as 20%.

The bulk of the work is scheduled for the 2nd quarter of 2012, requiring a machine outage of less than a week. West Linn Paper does not expect that the minimal downtime will affect customer shipments.
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NPTA Alliance Presents Edward H. Kniep, III with Stanley O. Styles Industry Excellence Award

NPTA Alliance is pleased to announce that Edward H. Kniep, III, Chairman of the Board of Shaughnessy Kniep Hawe Paper Co., is the recipient of the 2012 Stanley O. Styles Industry Excellence Award.

“The Stanley O. Styles Industry Excellence Award is NPTA’s highest recognition, named in honor of Stanley O. Styles, who worked more than 35 years with Martin Cantine Co. and was an active volunteer of NPTA,” said NPTA Chairman Tom O’Connor. “I am honored to present the 2012 award to Ed Kniep and recognize the positive impacts he has made throughout his career in the paper industry through innovation and dedication.”

Kniep began his career at Shaughnessy as a sales representative in 1964 after serving in the United States Marine Corps. In 1977, he became the third generation in the Kniep family to be elected president of the company. Kniep has been with Shaughnessy for his entire 48-year career and has made significant contributions to the company and the paper industry as a whole.

Kniep is an active volunteer and advocate for NPTA. In 2007, Kniep was awarded the NPTA Industry Builder Award. In 2011, Kniep was named Chairman of the Paper Distribution Council (PDC). Kniep also serves as a member of the Board of Trustees to the Paper and Plastics Education Research (PAPER) Foundation.

Kniep has been active on numerous mill advisory councils and boards of trade associations. He also supports his local community and the arts.

“Ed is a man who embodies everything that we in the paper industry, and life in general, hold dear: integrity, leadership, innovation and character,” said co-nominator Paul J. Charapata, President and COO, Nekoosa Coated Products.

Kniep will be presented with the Stanley O. Styles Industry Excellence Award at the Paper2012 convention, March 25-27, in New York. Donations to honor Kniep can be made to the Paper and Plastics Education Research (PAPER) Foundation 2012 Scholarship Program. Please visit www.gonpta.com for further information.

Buckeye to Increase Specialty Wood Pulp Capacity at Foley Mill

Buckeye Technologies Inc. said that its Board of Directors approved funding to increase the high-end specialty wood pulp capacity by 42,000 tons at its Buckeye Florida “Foley” operation (Perry, Florida). The cost of the project is expected to be approximately $79 million with an anticipated rate of return of 15% to 20%.

The investment will be funded by cash flow from operations, the company added.

“This specialty expansion project will provide much needed high-purity specialty volume for strategic customers in all of our high-end markets including casings, tire cord, ethers, filtration, micro-crystalline cellulose, and acetate,” said Buckeye’s chairman and CEO John Crowe. “Additionally, this will improve our overall product mix from 42% specialty wood pulp to just over 50% specialty wood pulp while maintaining the Foley plant’s existing total capacity at 465,000 tons per year.”

Engineering and design work is nearly complete, and construction is expected to begin in January 2012 with project startup planned for December 2012, Buckeye said.

RUSSIA
Ilím Group’s Production in Northwest Russia Increased

Ilím Group said that during the first three quarters of 2011 its production units in the Northwest of Russia (Koryazhma Branch in the Arkhangelsk Oblast, and Ilím Gofra corrugated box plant in the Leningrad Oblast) manufactured 800,000 tons of pulp and paper products — a 6% increase compared to the same period of 2010. This includes 266,000 tons of market pulp, which is an 8% increase over the first three quarters of 2010.

Market containerboard production gained 2% versus the same period in 2010, reaching 364,000 tons.

Paper production climbed 170,000 tons, a 14% increase over the first nine months of 2010. The 2011 amount includes: 61,000 tons of sack paper, 75,000 tons of offset paper, and 34,000 tons of paper for wallpaper manufacturing purposes.

OAO Ilím Gofra in the first three quarters of 2011 manufactured 90,163,000 m² of products (corrugated board and boxes), an increase of 25% over the same period in 2010.
EUROPE

Stora Enso to Restructure Core and Coreboard Operations

Stora Enso said that its Packaging Business Area will restructure its core and coreboard operations in Finland, Germany, the United Kingdom and the U.S., and streamline corrugated packaging production in Finland.

“Decreased demand for paper mill cores in mature markets has made the market situation tighter...”
— Mats Nordlander, EVP, Stora Enso Packaging Business Area

According to Stora Enso, the planned restructuring measures would reduce approximately 80 employees in corrugated packaging operations in Finland and about 70 employees in core and coreboard operations mainly in Germany, Finland, the United Kingdom and the U.S.

In addition, the plans include possible temporary lay-offs at corrugated packaging operations in Finland, the company said.

“In core and coreboard markets the main customer is the board and paper industry. Decreased demand for paper mill cores in mature markets has made the market situation tighter, and in the current financial situation the outlook is uncertain,” said Mats Nordlander, EVP, Stora Enso Packaging Business Area.

“Corrugated packaging markets are very local and closely related to national economies. In Finland, demand is still clearly below pre-crisis levels, and there are no signs of sustained recovery,” Nordlander said.

Stora Enso expects its packaging segment to reduce annual costs by approximately EUR 6 million, starting during the first quarter of 2012, with all planned actions to be completed by the end of the third quarter of 2012.

“The planned restructuring and streamlining measures, including some development investments, will enable us to better meet customer and market expectations and ensure our competitiveness by being more cost efficient and streamlining our operations,” Nordlander concluded.

UPM to Close Myllykoski Paper Mill in Finland by Year-end

UPM announced that it will permanently cease production at the Myllykoski paper mill in Finland by the end of this year.

The closure will affect 371 people at the paper mill and 21 people at Myllykoski Corporation and Myllykoski Sales Nordic. Personnel reductions will start in January 2012.

According to UPM, the company and its employees were unable to establish a way to meet the commercial requirements for continuation of operations at the Myllykoski mill during employee negotiations. In addition, the company is cutting down its overlapping operations in paper sales, the supply chain and its functions in Finland.

“The Myllykoski mill has been making a loss for several years despite numerous measures aimed at making the operations more efficient,” said Jyrki Ovaska, President, Paper Business Group.

“The mill’s cost competitiveness is weak. The high costs of raw materials and energy have further increased total costs and permanently damaged the mill’s opportunities to reach a profitable level,” Ovaska said.

UPM said the sagging economy also factored into its decision to close the mill.

UPM said that it looked into alternative, profitable uses for the mill inside UPM’s businesses, but none were found.

UPM launched a program for employees affected by the closure called “From Job to Job” which works in co-operation with the authorities and partner companies, and includes active measures that promote employment and re-training.

The Myllykoski paper mill produces coated and uncoated magazine paper and has an annual production capacity totaling 600,000 tonnes from three paper machines. The mill was established in 1892.

INDIA

Emami Paper Mills Set to Install Additional P&W Paper Machine at Balasore

Emami Paper Mills said that plans have been finalized to install a 175,000 tpy printing & writing paper machine adjacent to its existing mill at Balasore, Orissa, India. In addition, Emami also plans to construct a 150,000 tpy Elemental Chlorine Free (ECF) bamboo/wood pulp mill, a 32 MW captive power plant, along with a water treatment facility on the site.

Emami said it is in the process of wrapping up permitting and financial arrangements.

The Balasore mill produces printing and writing papers and newsprint.
**EUROPE**

**M-real to Reduce Annual Coated Paper Capacity**

M-real has announced plans to restructure its coated paper business in order to improve its annual operating results by about EUR 20 million.

In a written statement, M-real said paper production at the Husum mill in Sweden will be reorganized, including an increase in coated paper capacity from 285,000 tonnes to about 340,000 tonnes. The increase will be the result of some production being transferred from the closure of a coated fine paper machine at the company’s Aanekoski mill.

The coated fine paper machine is the only PM at Aanekoski paper mill and has a capacity of about 200,000 tpy. After the machine closure, the mill’s paper and board sheeting operations will be combined, increasing M-real’s folding boxboard sheeting capacity.

Approximately 180 of the Aanekoski mill’s 370 employees will be affected by the reorganization.

“Profitability of coated paper production is very weak due to the worsened market situation and the structural overcapacity in Europe. The situation is not expected to materially improve in the future either, due to which we are planning to reduce our coated paper production and to focus it to our most efficient unit in Husum where M-real has one of the most modern and efficient coated paper production lines in Europe,” said M-real’s CEO Mikko Helander.

Based on the planned measures, M-real’s annual coated paper capacity would reduce by about 145,000 tonnes.

**SUPPLIER NEWS**

**Thiele Kaolin Achieves Record Breaking Safety Milestone**

Thiele Kaolin Company announced that the company has worked three years without incurring a lost time accident. This accomplishment sets a new company safety record.

Thiele’s President Paul Kirschling noted that “this milestone could not have been achieved without each Thiele employee’s full commitment to working safely.”

Celebratory steak lunches were held at the company’s Sandersville and Reedy Creek division to commemorate the milestone. In remarks given at these events, Kirschling said that “the ultimate goal is not to set records but to make sure every employee goes home every day without getting hurt.”

Kirschling further challenged all employees to finish 2011 with no new accidents and to make 2012 completely accident free.

“While we are all happy to celebrate this momentous occasion, we cannot be satisfied with three years without a lost time accident. Our goal has been and will continue to be an accident free workplace.”

**Eka Chemicals and Wetend Technologies in Cooperation**

Eka Chemicals and Wetend Technologies Ltd have agreed to market and deliver TrumpJet® Flash Mixing Systems together with Eka’s wet end chemicals to the paper industry globally.

The TrumpJet brand offers a range of chemical and additive mixing systems for paper mills, including paper and board machine wet end, stock preparation, recycled fiber and mechanical pulping process applications.

“The combination of high performance chemicals and an advanced chemical mixing system will benefit the paper and board industry, both in terms of cost savings and environmental gains,” said Lennart Nilsson, Director Global Marketing at Eka Chemicals.

“This offer will definitely have a positive impact on wet end efficiency and contribute to a sustainable paper machine operation,” added Jouni Matula, CEO at Wetend Technologies.
Specialty Minerals to Build Satellite PCC Plant in Bangladesh

Specialty Minerals has entered into an agreement with Bashundhara Paper Mills Limited to build and operate a satellite precipitated calcium carbonate (PCC) plant at Bashundhara’s paper mill in Meghnaghat, Bangladesh.

PCC is a specialty pigment for filling and coating high-quality paper.

According to Specialty Minerals, the satellite PCC plant, which will produce about 30,000 metric tons of PCC a year and is expected to become operational in the first quarter of 2013, will be wholly owned and operated by Specialty Minerals Bangladesh Limited.

“This satellite, which will bring our total in Asia to 13, is another indication of the success of our strategy to grow aggressively in emerging regions,” said Joe Muscari, chairman and chief executive officer.

Albany International Introduces New Roll Lagging Technology

Albany International announced that corrugated paper manufacturers can reduce the cost associated with the expensive, time-consuming process of removing and gluing roll lagging, thanks to Coated Dura-Drive™ Lagging EZ, which the company introduced today.

According to Albany, Coated Dura-Drive Lagging EZ installs on most drive pulleys without glue. “There’s no longer a need to shut down an entire operation over a weekend just to re-lag your rolls. With no grinding or gluing, there is a significant reduction in overall costs to a plant in both manpower and downtime,” said Joe Siciliano, Global Product Manager for Albany International Corrugator Belts. “In addition, since the Coated Dura-Drive Lagging EZ is installed in sections, if lagging is damaged in one section, you can replace only the section and not have to replace the entire roll covering.”

Metso to Supply CMPC Tissue with New Production Line in Chile

Metso will supply a complete tissue production line to CMPC Tissue S.A. of Santiago, Chile. The new tissue line will be installed at CMPC’s Talagante mill in Chile.

The value of the order was not disclosed, but Metso said this kind of production line is typically valued at EUR 20-30 million.

With a width of 5.6 meters, the new Advantage DCT 200+ tissue machine will produce 50,000 - 60,000 tons per year of high-quality facial, toilet and towel grades. The raw material for the new line will be virgin and DIP (Deinked) pulp.

Start up of the new line is expected during 2013.
AbitibiBowater has appointed Silvana Travaglini as Vice President and Chief Accounting Officer. Travaglini replaces Joseph B. Johnson, Senior Vice President, Finance and Chief Accounting Officer, who stepped down as chief accounting officer on November 15 and will then enter a transition period with the company.

Clearwater Paper has named Linda K. Massman as President and Chief Operating Officer. Massman has served as Chief Financial Officer for Clearwater since the company’s spin-off from Potlatch in December 2008.

International Paper announced three senior leadership moves effective Nov. 1: Tim Nicholls named Senior Vice President, Printing and Communications Papers, the Americas; Carol Roberts named Senior Vice President and Chief Financial Officer, IP; and Mark Sutton named Senior Vice President, Industrial Packaging.

International Paper also announced the appointment of Sharon R. Ryan to the position of Senior Vice President, General Counsel and Corporate Secretary. The Board of Directors approved the promotion of Ryan following her role as Acting General Counsel since May 1, 2011.

The Newark Group has named Gregg R. Kam as Vice President and Chief Financial Officer. Kam will replace Joe Byrne. Kam rose to positions of increased responsibility in a career that began as a Senior Accountant and Senior Financial Analyst at a private CPA firm, Holmes Protection and Unilever. He was Chief Financial Officer of International Specialty Products.

Rayonier announced that Paul G. Boynton will succeed Lee M. Thomas as Chief Executive Officer effective Jan. 1, 2012. Thomas will continue to serve as Chairman until his retirement in May 2012, at which time Boynton will assume the role of Chairman in addition to the roles of CEO and president. Currently, Boynton serves as President and Chief Operating Officer. Thomas joined Rayonier’s Board of Directors in 2006 and was named Chairman and CEO in 2007.

Sonoco said that Jim C. Bowen, Senior Vice President, Primary Materials Group, North America, will retire March 31, 2012 following a 40-year career. As a result of Bowen’s decision, John M. Grups has been named Division Vice President and General Manager, Primary Materials Group, North America, effective October 1, 2011.

Wausau Paper said that Thomas J. Howatt, President and CEO of the company, will retire at the end of 2011 and that Henry C. Newell, currently Executive Vice President and Chief Operating Officer of the company will succeed Howatt, effective January 1, 2012. Additionally, Howatt will succeed San W. Orr, Jr. as non-executive chairman of the board of the company effective February 15, 2012. Orr will retire from the company’s Board of Directors as of the company’s annual meeting in April 2012 upon the conclusion of his present term on the board, having reached mandatory retirement age.

Thiele Kaolin Company announced that Chris Fagouri has joined the company as Market Development Manager. Fagouri received his Bachelor of Science degree in Industrial Chemistry from Keene State College in 1988. Since that time, he has held positions in research and development, technical sales and global marketing management.

Please submit “People” news to John O’Brien by email: jobrien@paperage.com
Count on Paper2012 to bring together the leading players from across the industry — manufacturers, distributors, converters, end users, and service providers — for three days of informative programming and unparalleled networking opportunities.

Pulp markets weakened substantially during the third quarter 2011, precipitated by seasonally slower demand during the summer as well as weak underlying demand in key markets such as Western Europe and the U.S. due to sluggish economic conditions around the world. The weakness in demand was compounded by a fall off in shipment levels to China. Strong Chinese pulp buying was a key driving force behind the extremely bullish market conditions prevalent for the first two quarters of 2011.

At the present time it appears that markets will likely remain weak at least into early 2012. The larger issue is whether the pulp market will continue to unravel under the weight of a weak global economy or if the recent imbalance in supply, demand and inventories will be corrected and markets regain an upward trajectory.

While the current weakness is certainly unwelcome news for pulp producers they nevertheless have been enjoying robust market conditions for some time. The downward shift in direction, which began early this past summer, at least for now ended what has been a 24-month-long strong pulp market that began way back in the spring of 2009. As reviewed in our last report (PaperAge Nov/Dec. 2010, p. 14), the pulp market rebounded following the near collapse in prices and demand caused by the economic recession in 2008. After hitting the bottom in April 2009 — when NBSK list prices fell to under $600/tonne — prices rose steadily and reached a new peak in summer 2010.

The initial recovery from the depths of the 2008 recession was primarily demand driven, as printing and writing paper demand, which had also collapsed, staged a solid if not stellar recovery beginning earlier in 2009 and which continued into 2010, aided by inventory restocking throughout the supply chain. The improvements were led by strong growth in emerging markets such as China. Although growth in U.S. and European markets wasn’t as robust, they nevertheless saw a solid recovery in demand as well. The recovery was also aided by shuttering almost 3 million tonnes of pulp capacity in North America alone in 2008-2009 as many mills were simply forced out of business as prices and demand collapsed.

However, beginning in the summer of 2010 the pulp market weakened after the recovery had been underway for a little over a year. It appeared at the time that the strong pulp market had been quite short-lived. However, beginning in late-2010 and lasting until late in the second quarter 2011, extremely strong demand, in large part fueled by a huge surge in pulp shipments to China, tipped the balance in favor of producers. They were able to enact a series of price increases that resulted in record prices by June 2011.

At the peak, list prices for benchmark NBSK reached $1,030-1,040/tonne according to various sources, and the average delivered price for NBSK to the U.S. market was...
$1,025/tonne. This established a new record unadjusted for inflation. At that point, global softwood inventories remained balanced due to steady demand and reduced supply resulting from maintenance downtime. Softwood inventories were at about 28 days of supply, with 27-30 days considered a “balanced market.”

However, it all began to unravel late in the second quarter, and the market remains mired in a slow downward spiral. Several factors caused the shift, including excess production as some mills built stocks in preparation for maintenance downtime, seasonally slower demand and destocking in China.

The global economic malaise that has lasted for most of 2011 has also resulted in a slowing in underlying demand. Most notably, world printing and writing paper demand decreased about 1% in the Jan. to Aug. 2011 period, compared to the same period in 2010, according to PPCP data. More recently, North American printing and writing papers shipments posted very weak results in September, declining 7% vs. the prior year level. This drop represents an acceleration of the shrinking in demand as N.A. demand is off 5.6% through the first nine months compared to 2010. According to various market forecasters, printing and writing paper demand is expected to continue to decline on the order of at least 2% over the next couple of years in North America and Europe.

The importance of this can’t be overlooked as printing and writing grades are by far the major use for market pulp. They consume about 75% of all market pulp shipments, with about two-thirds of that consumed by fine papers mills, and the remainder by publication papers such as SC grades and lightweight coated. Tissue, which remains a key and more stable end use, consumes about 15 – 20% with the remainder consumed by packaging and other uses.

**Chinese Market the Swing Factor**

Without doubt, wild swings in pulp demand by China has been a key factor behind first the surge in prices in first half 2011 and the subsequent downward movement over the last few months. As noted earlier, the beginning of a pulp market correction began in the summer of 2010 but it didn’t continue into 2011 because of the frenetic pace of Chinese pulp purchases. Deliveries of pulp to China approached one million tonnes per month by last December. China accounted for almost 82% of the total 981,000-tonne jump in global pulp shipments through May. However, shipments dropped to 622,000 tonnes in May from a recent high of 962,000 tonnes in March. Part of the dramatic growth in softwood demand in China is reportedly due to demand for dissolving pulp. However, this surge is believed to have eased since May. Shipments to China rebounded in August to 770,000 tonnes, but Chinese pulp buying has eased considerably in recent months and most expect it to last through year end.

One major result of the weakness in demand and downward shift in shipments to China has been a surge in pulp inventories, which in turn led to the price slippage. While inventories declined 8% in September, PPCP World-20 statistics show softwood markets remain slightly oversupplied, according to the PPCP. Worldwide chemical market pulp producer inventories had increased in August to 41 days of stock, the third consecutive increase and a gain of eight days-of-supply over the June to August period. At 41 days stocks were well above the 34-day level in August 2010. By comparison, stocks were at 33 days last April when the market was balanced and pricing strong. The August level is the highest since early 2009.

**Economic Dark Clouds Make Outlook Unpredictable**

So where does this leave us for 2012? There are several major questions regarding the likely direction for pulp prices in 2012 and all of them are harder to answer than ever.

First of course is the outlook for demand. Major end-uses such as tissue continue to expand on a global basis and even in developed markets, where demand for other products has languished, tissue demand continues to slowly expand. However, as discussed the outlook for printing and writing papers varies widely from very good to bad. Demand in the developed areas will continue to shrink into next year. In contrast, demand in Asia may be weak in the short term but it’s expected to recover and continue expanding at a strong pace. It doesn’t appear that excessive pulp capacity growth will be a problem, at least in 2012, as growth in likely to be moderate. There may be some growth in capacity due to closures of paper capacity, allowing captive pulp to shift to market pulp at mills in North America. This does bear watching.

Producers may be able to bring things into balance and avoid a major collapse in pricing next year if the global economy can maintain, or even improve upon recent albeit erratic growth. Nevertheless, given the looming debt crisis in Europe, it’s anybody’s guess what will happen. If Europe goes into a serious tail spin it will drag the U.S. and the world economy, and the pulp and paper market, down with it. Over the long term, global pulp demand will continue to expand, but getting through the next 6-12 months may be the hard part.

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by David Price

North and South

Is pulp manufacture in the northern hemisphere being run down in favor of papermaking? And is papermaking in the southern hemisphere being replaced by pulp manufacture?

Years ago I commented on the surge in hardwood pulp plantations in the southern hemisphere (PaperAge, March/April 2007). It still continues on a massive scale in Brazil, Uruguay and Chile — with and without foreign partners — mainly Stora Enso, UPM and M-real, all Finnish.

Those three companies are shutting some papermaking capacity in Finland and Sweden, but are retooling their pulp mills as “energy platforms” or biofuel plants. In this development they work with energy, chemical and transportation industries. Some analysts suggest that in the northern hemisphere in Europe pulp has become too expensive to make paper. We all know wood costs are high and that extraction is expensive, so the sensible thing now is to get the most out of pulp and that includes its by-products, i.e. chemicals, pharmaceuticals and food additives. Nestle of Switzerland is the latest conglomerate to look at pulp for wood chemicals as a source material for its food products.

Five years ago, Finnish mills were hobbled by labor unrest and strikes, a situation which drove one frustrated CEO to say they should be making pulp elsewhere. That has now become a reality.

Southern Pulp

In the southern half of the world, the new pulp mills are large capacity units — one million tons per year on average — and are getting larger. The big players are Fibria (Brazil and Stora Enso), Suzano (Brazil), Cenibra (Japan), Arauco and CMPC (Chile) and UPM (Finland). ENCE of Spain was in Uruguay briefly but pulled out in 2009 as the recession hit southern Europe.

The raw material is fast-growing eucalyptus from massive plantations, and it can only do pulp for papermaking, not wood products, building timber or energy generation. It is designed to perform well on paper machines. The market for most of the pulp is China and some to Europe. China’s own fiber resources currently are inadequate and may be so for a number of years to come despite a huge planting program and stepped up paper recycling efforts.

For me, the tantalizing prospect is that China may become a major plantation owner in Brazil in the way that Japan-owned Cenibra (in Brazil since 1977 with a capacity of 1.1 million tpy) serves its Japanese customers.

Massive Pulpmaking Capacity

Brazil is where the explosion in pulp production is happening. Last year, pulp production reached 13 million tpy. Two years ago Aracruz and Votorantim merged to become giant pulp producer Fibria with an annual capacity of 6 million tons. A pulp and paper mill at Guaiba and forests were sold to CMPC of Chile for $1.4 billion. CMPC believes the purchase will allow it to become the world’s second largest pulp producer by 2013 with a capacity of 3.5 million tpy.

Latin America is now the cornerstone of Stora Enso’s strategy for low cost pulp from its Brazilian plantations. It also owns Veracel Celulose in a joint venture with Fibria. Veracel produces 1.1 million tpy of eucalyptus pulp and has a fiber base of 212,000 hectares of which 91,000 is planted with the species.
Fibria is planning a new pulp mill next to its Tres Lagoas mill (capacity 1.3 million tpy) in Mato Grosso, and start-up is possibly 2014-2016. In addition, Stora Enso also owns Arapoti mill jointly with Arauco of Chile. This mill produces 185,000 tpy of coated magazine paper. In the Brazilian state of Suo Grande do Sul, Stora Enso owns 45,000 hectares of land, half of which is eucalyptus plantations. Suzano is also planning two, 1.3 million tpy pulp mills with start-ups in 2013 and 2014.

In Uruguay, in 2009, Stora Enso and Arauco bought ENCE’s operations for $344 million in a deal for 136,000 hectares of land and plantations. A pulp mill, jointly owned by both, for Punta Pereira is now in the planning stage. The investment is around $500 million for a mill with a capacity of 1.3 million tpy. An adjacent port is also planned.

Writing on the Wall?
In August, UPM’s CEO, Jussi Pesonen, expressed what everyone thought when he said: “The paper industry faces severe challenges due to high raw materials, energy and logistics costs, and considerable overcapacity. The profitability of our paper business is clearly below the level required to run long-term sustainable operations.”

It couldn’t be plainer. I find it significant that one of UPM’s three business areas is now Energy and Pulp.

Last year UPM’s pulp production was 3.6 million tpy of which 1.1 million tons came from the Fray Bentos mill in Uruguay. UPM has stated (AR 2010) that it plans to transform itself from an integrated pulp producer into “…an active operator in the global pulp market.” Plantation-based pulp production now represents 35% of its total pulp capacity. UPM has been in Uruguay for over 20 years, mainly as a forest owner after it bought forests planted and owned by Shell, whose plans were to provide low cost fuel (charcoal) to the local community.

In Chile, CMPC — having bought Aracruz’ Guaiba operations — is still planning an expansion of its pulp mill in Valdivia, southern Chile. It was damaged last February by a massive earthquake which halted production at the 500,000 tpy Arauco pulp mill. The company’s most recent plans call for the mill to restart in February 2012.

So, will the build up of pulp capacity south of the equator continue on a massive scale and force northern pulp mills into a life of bioenergy production or worse, closure? It’s a scenario that seems more likely with each passing year.

David Price is a contributing writer for PaperAge. He can be reached by email at: DPrice1439@aol.com.
Driven by high shipping costs and vastly different consumer and cultural preferences, the production of tissue has historically developed as a regional business. However, with access to large populations and growing demand as a result of urbanization, it has become difficult to ignore the opportunities that international markets provide. Tissue players are increasingly “going global”, growing their presence in international markets through international trade and investment. Despite the exciting international opportunities, challenges exist to executing a successful global expansion strategy. The following article provides key insights into today’s global tissue industry.

By Lindsay Gervais and Alexandra Taylor
INTERNATIONAL TRADE

International tissue trade has grown considerably, with imports and exports growing at an average of 220,000 metric tonnes per year over the last ten years (2000-2010). Imports and Exports (including converted products) totaled to just over 11 million metric tonnes in 2010. Despite this growth however, in most regions trade volumes are not significant when compared to the overall size of the market and continue to be largely intra-regional.

However, cross-continental trade activity is growing at an accelerated rate in some regions. With an export surplus of over 400,000 metric tonnes (including converted products) in 2010, China nearly doubled its net exports in just five years and is now the second largest tissue exporting country. The top destinations for Chinese exports have historically been other Asia/Oceania countries such as Hong Kong, Japan, Taiwan, and Australia. Today, however, Chinese exports to the United States, the majority of which are converted products, exceed all other countries, making it the single largest export market for Chinese tissue products. Announced tissue capacity expansions in China are large in volume and may drive further growth of exports should they outpace growth in domestic consumption.

Although the nature of trade in Western Europe continues to be intra-regional, imports from countries outside of the region have grown at very fast rates. Imports from Eastern Europe, Africa, Latin America and China have more than doubled in volume in just five years. For the major importing countries, the United Kingdom, Germany, France, Benelux and Spain, nearly 10% of imports now come from outside of Europe (see Figures 1 and 2).

The increased cross-continental trade activity has fuelled competition from foreign tissue producers. However, given the economics of shipping these bulky products, trade flows continue to be relatively small when compared to the overall size of the market. As an alternative to trade, some producers have chosen to expand internationally through a physical manufacturing presence in foreign markets.

FOREIGN DIRECT INVESTMENT

Direct investment (through acquisitions, partnerships or Greenfield investment) to establish a physical tissue manufacturing footprint in international markets began as early as the 1950s. Although slow to develop at first, overseas investment activity has increased, targeting new markets and larger investments.

The top tissue producers have expanded and grown very differently in terms of their manufacturing footprint around the world. Among the top producers, Kimberly-Clark and SCA are clearly the most global companies, having established a significant presence across all continents and most recently targeting Eastern Europe. Other producers have also invested beyond country borders, but have expanded intra-regionally – Procter & Gamble and Cascades in North America, Sofidel and WEPA in Europe, Asia Pulp & Paper and Hengan International in China and Indonesia, and CMPC in Latin America. Reverse developments have even occurred with some producers reducing exposure to international markets, most notably Procter & Gamble, which exited Europe and Asia. Despite these
differences, there are key markets that are clearly capturing the most attention.
(see Figures 3 and 4).

**Latin America.** Latin America has attracted the most foreign investment from global (and regional) producers over the last ten years. SCA has increased its presence nearly tenfold mainly through acquisitions. K-C has doubled its capacity and even smaller foreign competitors such as Kruger have targeted this region for growth. Through its acquisition of Melhoramentos, CMPC also increased its presence in this region.

The demographics in this region are suitable for distributing bulky tissue products, with the populations of many countries being concentrated in large cities. For example, nearly half of the population of Argentina is concentrated in the Buenos Aires metropolitan area, and almost 10% of Brazil’s population is in the Sao Paulo metropolitan area. Other favorable factors driving the investment activity include increased demand for a variety of tissue products due to strong population growth and increasing wealth. Finally, protectionist policies in Brazil which have made it expensive to export to this country have motivated

Latin America is not without its challenges, however, as uncertain economies and financial woes have caused periods of slow growth. Furthermore, doubts over political stability in countries such as Venezuela have often cast shadows of doubt over investment ambitions.

**Eastern Europe.** Other regions are also beginning to attract foreign investment. Eastern Europe is among these regions and Kimberly-Clark, SCA, Metsätissue and Sofidel have all recently invested in this region. Underlying fundamental market factors such as population size and developing urban population hubs are driving high tissue demand growth. Tissue markets in this region, although growing rapidly, are still in early stages of development and are relatively small in size (1.3 million metric tonnes in 2010).

**SCA - Most Active Foreign Investor.** Regardless of the targeted regions for tissue investment, one company stands out as the most active foreign investor. Swedish company, SCA, has arguably undergone the most drastic global transformation through foreign direct investment. In only ten years (1998-2008), SCA transformed itself into a truly global tissue producer. Most of its investments have come through acquiring tissue companies to leverage local market know-how and experience. Through its acquisitions of Carter Holt Harvey (2003) and G-P’s Away-from-Home assets (2001), SCA marked its entrance into Australia, New Zealand and United States. SCA also increased its presence in Latin America nearly tenfold in the same time period and became the largest European tissue producer after the purchase of P&G’s European assets. SCA has also expanded through Greenfield investments in new tissue machines, increasing capacity in Russia to become the second-largest producer. Finally, SCA has tapped into the Chinese tissue market through its minority interest in Vinda (2007/2008).
Ten years of foreign investment increased SCA’s tissue capacity from 1.1 million tonnes regionally focused in Europe, to 2.7 million tonnes globally. With these strategic growth initiatives, SCA today is among the Top 5 producers in every region in which it operates.

**OPPORTUNITIES AND CHALLENGES IN INTERNATIONAL EXPANSION**

Despite the growth opportunities that international tissue markets present, it is no easy task to execute a successful global strategy and operate profitably in new territory. The recipes for success vary by regional tissue markets and by company. A one-size-fits-all solution to succeeding in the global tissue arena does not exist.

Asia Pulp & Paper has found success as a major exporter and has only recently established a converting footprint in its main target markets (United States, Australia). SCA and K-C have employed a different strategy, tapping international markets directly through acquisitions and Greenfield investments. For some markets, K-C has even taken a more conservative approach, establishing a sales presence in the Russian market for nearly ten years before taking the step to invest in a manufacturing footprint for the production of diapers. The tissue industry has even observed reverse development, with some producers such as Procter & Gamble reducing exposure to international markets. Today, Procter & Gamble only has tissue manufacturing in North America and Latin America, exiting Europe and Asia in the last 10 years.

Different regions present very different opportunities and challenges. Understanding the competitive landscape, which products are in the highest demand, the best way to source raw materials, distribution networks and the best path to market, are all factors that will influence the most appropriate approach for each market. For some markets, such as Latin America, foreign investment activity has been large in volume for years. For other markets, such as China, key barriers exist to foreign competitors.

China is a largely untapped market for western competitors. With all of its attractive market fundamentals — a large population, expanding middle class and progressing migration to urban centers — the Chinese tissue market also comes with an incredibly competitive landscape. The presence of Asia Pulp & Paper, Hengan International, Vinda Paper and several smaller players sets the stage for intense competition. This, combined with challenging access to distribution networks, a dispersed rural population, limited domestic fiber supply and very different quality standards, make China a difficult market to enter. Of the largest producers globally, only Kimberly-Clark has established a very small manufacturing footprint in this second largest tissue market globally. SCA’s exposure to Chinese markets is indirect, through its minority equity interest in Vinda. A large scale market presence for foreign competition in China continues to be a significant challenge.

Latin America, a market that has attracted investment for some time now, is the reverse of the Chinese market structure, with foreign competitors ranking among the top 5 producers (#1 Kimberly-Clark, #3 SCA, and #4 Kruger). The region, which also has an expanding middle class with increasing wealth, has a diverse set of challenges that ranges from high energy costs to unpredictable and changing government policies. Sourcing raw materials can be a problem too, and although virgin fiber, especially eucalyptus, is readily available in the region, much of the existing capacity is produced with wastepaper which is becoming increasingly scarce and with worsening quality.

In Oceania, Asia Pulp & Paper has been very successful in penetrating the market through exports. The Oceania region is a phenomenon from a trade perspective, where tissue imports represent a substantial portion of overall tissue consumption. This has presented a competitive threat to other global players such as SCA and Kimberly-Clark who have established a footprint in this market through direct investment.

Interestingly, SCA has most recently announced the divestiture of 50% of the operations in Oceania, creating a new partnership with local investment firm Pacific Equity. The decision to partner is, in part, a strategic response to intense competition against foreign competitors such as SCA and Kimberly-Clark with a captive market in Europe. SCA’s partner, Pacific Equity, enable SCA to expand, with SCA acquiring a majority share in SCA’s Oceania operations, creating a new footprint for the production of diapers.

**CONCLUSION**

Selecting the best markets to enter and devising a strategy to enter those markets is a complex process that must be examined from several perspectives. Identifying regions with the highest potential for your products and best fit for your company, while taking proactive measures to mitigate risks are key factors that define success. One entrance strategy may be more suitable for a targeted international market versus another. With the right strategic tools, untapped growth opportunities can be captured.

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With offices in over 50 countries, Pöyry is well positioned to help you explore international opportunities. Pöyry’s Strategy Consulting practice specializes in the pulp, paper, packaging, hygiene and bioenergy industries and provides services that focus on driving real value through an integrated approach to improving business strategy and operations.
As of 2009, there were around 3,700 paper and board mills in China with a total annual output of 86 million tons and annual consumption was also close to 86 million tons — an 8% increase compared with 2008. From the years 2000-2009, we saw an annual capacity increase of 12% and a consumption increase of 10%. It is believed that China will see at least another 20 years of GDP growth greater than 8% during the transformation from a rural, agriculture economy to an urban, industrial economy. This has become a mounting task for the Chinese central and local governments as it tries to balance and maintain such growth while ensuring social stability for a developing country with a population of 1.4 billion. We anticipate that the Chinese paper industry over the next 20 years will continue to grow steadily and at a similar pace as GDP growth (see Figure 1).

China – Shaping the Flow of Paper and Board around the World

China continues to install the production capacity it needs to satisfy its growing domestic demand for paper and board. With a shortage of raw materials, especially recovered paper, Chinese mills now are aggressively stepping up efforts to recover more paper and decrease their dependence on imports. But where will that leave everyone else?

By Vivian Ou

CONTAINERBOARD

Containerboard plays a very important role in China’s paper industry with over 70% of Chinese capacity and consumption growth coming from its containerboard business. By the end of 2008, China had become the world’s largest containerboard market, and it is expected to maintain this position over the next 20 years.

As of 2009, China’s containerboard capacity reached 34 million tons, with the top five producers accounting for about 36% of the total capacity. This percentage will continue to climb in the next five years with on-going consolidations taking place in the Chinese containerboard market.

Based on the previously announced Chinese containerboard capacity expansion plans, the top two producers will have total capacity close to 1.7 million tons by the year 2012 and
will account for almost 40% of total Chinese capacity. Lee & Man Paper, the second largest containerboard producer in China, is expanding aggressively by building new mills across the country. By 2012, Lee & Man will become the fourth largest containerboard manufacturer in the world with 7 million tons per year of production capacity (see Tables 1 and 2).

HEAVY DEPENDENCE ON RECOVERED PAPER

With the astonishing speed of expansion taking place in the Chinese paper market, people have reason to raise concerns. Where will Chinese mills get the recovered paper to meet their fast growing demand? Is there enough recovered paper to meet the Chinese demand?

Recovered paper demand in China increased 15% annually during the years 2000-2009, reaching about 62 million metric tons in 2009. Due to the further expansion of recycled-based paper and board capacity, China will continue to be the major force generating growth in demand for recovered paper in the global paper industry over the coming 20 years.

China’s paper industry heavily depends on imports of pulp and recovered paper, and many of the larger paper producers set up procurement operations in the developed regions of the world. However, during the past 10 years, the Chinese mills became increasingly unsatisfied with spot purchases from overseas markets and in turn strengthened their supply chains with overseas suppliers by signing long term contracts or establishing joint-ventures via financial investment.

As one of the leaders in the Chinese paper industry, Lee & Man Paper has three exclusive purchasing agents (Ralison International, Mark Lyndon Rotterdam and Mark Lyndon UK) in the U.S. and Europe that supply the company with 3.5 million tons OCC (Old Corrugated Containers) annually. This accounts for about 35% market share on total Chinese imported OCC.

Table 1. Global ranking for containerboard producers

<table>
<thead>
<tr>
<th>2007</th>
<th>2010</th>
<th>2012 (forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Installed Capacity (million tons)</td>
<td>Installed Capacity (million tons)</td>
</tr>
<tr>
<td>Rank</td>
<td>Company</td>
<td>2007</td>
</tr>
<tr>
<td>1</td>
<td>Smurfit-Stone</td>
<td>6.77</td>
</tr>
<tr>
<td>2</td>
<td>Smurfit Kappa Group</td>
<td>5.94</td>
</tr>
<tr>
<td>3</td>
<td>Weyerhaeuser</td>
<td>5.67</td>
</tr>
<tr>
<td>4</td>
<td>International Paper</td>
<td>4.51</td>
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<tr>
<td>5</td>
<td>Nine Dragons</td>
<td>3.84</td>
</tr>
<tr>
<td>6</td>
<td>Georgia-Pacific</td>
<td>3.51</td>
</tr>
<tr>
<td>7</td>
<td>Temple-Inland</td>
<td>3.49</td>
</tr>
<tr>
<td>8</td>
<td>Oji Paper</td>
<td>2.76</td>
</tr>
</tbody>
</table>

Table 2. Top Five Containerboard Producers in China

| — 2006 — | | — 2009 — | |
| Rank | Company          | Installed Capacity by end of 2006 (million tons) | Rank | Company          | Installed Capacity by end of 2009 (million tons) |
| 1     | Nine Dragons    | 3.3                                               | 1     | Nine Dragons    | 6.52                                             |
| 2     | Lee & Man Paper | 1.65                                              | 2     | Lee & Man Paper | 3.55                                             |
| 3     | Guangzhou Wan Li Da | 0.76                | 3     | Guangzhou Wan Li Da | 0.28                                           |
| 4     | Dongguan Jiehui | 0.6                                               | 4     | Anhui Shanying  | 0.82                                             |
| 5     | Anhui Shanying  | 0.28                                              | 5     | Jian Paper      | 0.66                                             |
|       | Other mills     | 15.81                                             |       | Other mills     | 21.95                                            |
|       | TOTAL           | 22.4                                              |       | TOTAL           | 21.95                                            |
|       | Top 5 market share         | 29%                                              |       | Top 5 market share | 36%                                            |
RECOVERED PAPER MARKET TIGHT

As the result of weak economic activities in developed countries, the supply of recovered paper from those regions continues to tighten. The already-high paper recovery rate indicates that there will be very little room for an increase in the generation of recovered paper in developed regions, including Western Europe and Japan. High fiber and transportation costs from these areas also makes Chinese mills uncomfortable. Thus, China’s papermakers have to find ways to feed their mills by increasing local tree plantations and bolstering local paper collection efforts in order to meet their aggressive expansion needs. As recently as 2008, China’s recovery rate remained far below that of the developed regions.

In order to increase the supply of recovered paper, the Chinese mills have spent great effort to build the local pulp and paper integration network in the past two years, led especially by the large-size paper mills. As one of the leaders in the recycling field, Lee & Man currently has 30 local recycling centers across the country and a 250,000-acre tree plantation in Guangxi province. During 2011, Lee & Man plans to build 35 additional recycling plants locally to meet the company’s expansion needs. By increasing its domestic OCC collection over the past two years, Lee & Man Paper has reduced its European recovered paper purchases by over 30%.

The continued strong growth of domestic paper consumption in China easily supports the increase in recovered paper efforts. The first two quarters of 2009, however, proved the most difficult for Chinese paper mills in the past decade. The mills went through a number of hardships as a result of the global recession, i.e. declines in product pricing, increased inventory, tightening credit policies and increasing raw material costs. But thanks to the government’s $567 billion economic stimulus package, China’s economic growth improved in the third quarter and the momentum remained strong throughout the remainder of the year. With the strong domestic consumption growth, Chinese mills, led by the containerboard mills, hit a turning point in the third quarter by increasing sales, reducing inventory and improving profitability. Thusly, the growing domestic demand lead to the overall increase in containerboard demand in China. Domestic end users are now the largest segment of China’s containerboard business. Currently, over 80% of Lee & Man’s sales are generated from domestic consumption and we expect the ratio will increase to 90% in the coming 2 years.

INCREASING THE RECOVERY RATE

As a result of the growing supply of domestic recovered paper, Chinese mills are building more local collection centers to meet their needs. China’s recovered paper utilization rate is actually pretty high compared with the world’s average. It’s noteworthy to mention that a portion of the paper recovered in China does not directly make it to the paper mills, but instead is picked up by scavengers where it is reused in other ways such as fuel and packing material. This gives the Chinese mills much more room to increase their recovery rate by building more collection depots in rural areas.

Additionally, China has substantially more opportunity to increase the paper recovery rate from the trash collection system while the region’s people’s standard of living improves. Prior to 1990, China’s trash handling rate didn’t even reach 2%. But by 1999, the rate had increased to 63.4%. In the past 10 years, with the improvement in living standards and changes in the people’s consumption portfolio, the urban residential trash’s recyclable content has reached 20%. The trash generation is also increasing at the same speed as population growth. The construction of waste management facilities will be the next step for the Chinese paper mills in their efforts to increase the supply of locally recovered paper.

CONCLUSION

In summary, China will continue to be the leader in the global paper industry for both paper production and consumption. As a result, China will also be the driving force in the global recovered paper market. Fortunately, Chinese mills will focus the growth of their recovered paper supply locally to meet their expansion need. Eventually, global recovered paper demand and supply will reach a balance.

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Editor’s Note: The original version of this article first appeared in Resource Recycling, May 2011 (www.resource-recycling.com). Some textural and statistical changes have been made to this version by the author to reflect recent changes in production capacities due to acquisitions.
PaperAge would like to take this opportunity to thank our 2011 advertisers. They are some of the global pulp and paper industry’s best supplier, service and consulting companies.

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To be competitive in today’s market, papermakers know it’s essential to invest in the automation that is right for their mill. But balancing their technology needs with the realities of their budgets is never an easy task.

Typically, the business case for automation investment is based on the equipment’s ability to reduce product variation and increase economic returns (see Figure 1).

Distributed Control Systems (DCS) and Programmable Logic Controls (PLC) control the valves and motors that run paper machines. Quality Control Systems (QCS) provide online measurement and control of paper grade specification parameters such as basis weight, moisture, thickness, color and opacity.

State-of-the-Art automation provides much more capability than the traditional DCS and/or QCS. Modern automation arms papermakers with enhanced abilities to reduce downtime, increase production rates, and develop consistency in product quality.

By Keith Masters
Automation systems collect process information from flow, pressure, temperature, level, pH and other process measurement devices as well as the weight, moisture, color, thickness and related quality measurements provided by the QCS. Today's systems use commercially available technology for computing and network infrastructure to provide access to more mill information.

With new technology, operators have fast access to the information that can help them make sound decisions, including control information, trend information, interlocks, alarms, diagnostic information, descriptions of proper operation and maintenance history (See Figure 2).

With modern automation systems, people can be connected to needed information cost effectively. One example of a best practice is to make the information from intelligent devices including documentation, diagnostic, condition, configuration and operating information inherently available when these devices are configured in the automation system. In this way, when an intelligent device reports an error message, the control loop is automatically shifted to a safe operating condition and the operator is notified. At the same time, the instrument technician is also notified, shortening the time it takes to diagnose and correct a problem. In another example of a best practice, the maintenance history of a critical part of the process, such as the headbox, is made available for the user to view. In both cases, the information is provided in context with what the user is viewing with a simple right click of a mouse.

THREE-STEP OPTIMIZATION

ABB’s optimization consists of a three step process: diagnose, implement and sustain.

The diagnostic portion, Process Fingerprint, includes an experience database representing several hundred studies. Key performance indicators, KPIs, cover Product Variability, Stock Approach Stability, Machine Response and Profile Capability. Expressed as an index, the KPIs are compared to benchmark performance from the experience database. The Product Variability index, derived from adding individual weight and moisture indices, indicates the process’s cyclic tendency. The Stock Approach Stability index represents the stability of dominant stock approach control loops. The Machine Response index is an indication of weight, moisture and headbox control performance and is the sum of the individual control indices. The Profile Capability index indicates Cross Direction weight and moisture control performance.

By evaluating the process information, the cyclic nature of a variation can be characterized as pulsations, surges, vibration or mechanical condition, and the variation can be accurately linked to its source (see Figure 3).
ABB provides an action plan that explains the improvements needed for optimization. Information from the Process Fingerprint is used to identify and prioritize the recommended actions.

The optimization program’s sustain phase involves monitoring the KPIs and reporting when appropriate (see Figure 4).

At US Corrugated in Cowpens, SC, an ABB optimization program brought achievable benefits. The mill went from producing 280 tpd to producing more than 780 tpd. The program with US Corrugated evolved over several years and now includes the capability for experts to connect remotely. Through remote connection, problems have been fixed in minutes instead of days since the right expert is involved in the solution more quickly.

SUMMARY

Papermakers using these best practices and optimization capabilities are realizing efficiency improvements in the range of 1 to 3%. Determining the improvement possibilities for a specific operation requires evaluation of the factors that impact efficiency. A gap analysis is performed to identify the issues that are impacting the availability of the operation, ability to produce at target production rates and desired quality (see Figure 5).

A combination of factors can help companies improve their efficiency. Technology helps by bringing information together from a number of sources in a cohesive way, structuring information so it is relevant to a user’s job function and providing analysis and decision support tools.

When people use these capabilities, downtime is reduced, production rates increase and product quality is more consistent.

Commercially available leading edge technology provides mill systems with a solid foundation — and users with the information they need be competitive in today’s market. What we choose to do with the information that is available is up to us. As we consider the various types of information in the mill computer systems, our challenge is to decide how we can better leverage this information to improve mill operations.

References:


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Figure 4. KPI reporting plays a key role in optimization.

Figure 5. To improve production, papermakers evaluate the factors that impact mill efficiency.
Is your mill using recycled or de-inked furnish? Eliminate stickies, wax, inks and at the same time reduce breaks, improve sheet quality, increase production, and replace harsh chemicals...

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Driving Sustainability to the Next Level

AF&PA’s new initiative sets challenging goals for increasing recovery of paper for recycling, increasing energy efficiency, reducing greenhouse gas emissions and promoting sustainable forestry practices.

Segments making up the following article are excerpts from AF&PA’s “Better Practices, Better Planet 2020."

AF&PA is establishing the most extensive set of quantifiable sustainability goals for a major U.S. manufacturing industry, with a commitment to transparently report progress towards achieving those goals.

This new initiative called “Better Practices, Better Planet 2020: Continuing AF&PA’s Commitment to Sustainability” is the next phase in the forest products industry’s efforts to build on our legacy as a leader in sustainability.

Within Better Practices, Better Planet 2020, we have set specific, challenging goals for increasing recovery of paper for recycling, increasing our energy efficiency, reducing our greenhouse gas emissions and promoting sustainable forestry practices, while continuing to strive for the safest workplaces possible for our employees. We are committed to holding ourselves accountable for achieving these goals by transparently reporting on our progress through AF&PA’s biennial Sustainability Report.

Increasing Paper Recovery for Recycling

Industry-led efforts to increase paper recovery for recycling are among the best examples of how we are protecting our environment and meeting our economic and social commitments. The paper industry has led the way by setting and achieving incremental paper recovery for recycling goals since 1990. In the 20 years since, recovery has nearly doubled.

In 2010, 63.5 percent of U.S. paper consumed was recovered. This follows last year’s success of surpassing the industry recovery goal set at 60 percent in 2009 three years ahead of schedule — having recovered 63.4 percent that year.

Increasing Our Energy Efficiency

We are setting a goal to continue that progress by improving our industry’s energy efficiency in purchased energy use by at least 10% from 2005 to 2020 — using the measurement methodology of the U.S. Department of Energy’s Save Energy Now program.

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THE SHIPMENT HAS TO GO OUT TWO DAYS EARLIER.
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A comprehensive approach to innovation has made Eka one of the world's largest supplier of pulp and paper chemicals. So when doing business with us, you may get more than you bargained for.

Patrik Simonson, for instance. Not only has he helped develop and fine-tune the Compozil retention system in our lab in Sweden, he's also worked on various new applications where it truly matters – at our customers’ mills.

Access to all the necessary equipment used by professional papermakers makes our R&D that much stronger, in Patrik's eyes. Careful preparation and planning is vital, but practical experience of chemicals, processes, machines and people near and far guides the work in the lab and makes Eka's innovations truly safe to use.

And every time he's on site, more ideas are born. All of them with one purpose: making your whole papermaking process that much more competitive.

Inspiring paper all over the world is our inspiration. Meet us at eka.com.