PULP DRYING
Klabin’s PUMA pulp mill features a drying system designed to produce both fluff and softwood market pulp

MARKET INSIGHT
How long will the surge in Chinese OCC and pulp prices last?
Now, bleached Kraft has a brighter future.

Reduce chlorine dioxide and reversion with Vybrant™ enzymatic technologies from Buckman.

Your Kraft pulp may be fully bleached. But is it fully brightened? Now it can be with Vybrant enzymatic post-bleach technology. Our program uses specially selected enzymes to safely remove brightness-limiting chromophores in bleached pulp. So not only can you achieve a higher brightness with less bleaching, you can significantly reduce the reversion and yellowness that often require optical brighteners in the paper mill.

Buckman can help you:
• Reduce bleaching chemical costs
• Reduce production bottlenecks due to chlorine dioxide limits
• Increase production
• Improve effluent and reduce AOX

Get brightness that meets the test of time.
Start gaining—and retaining—Kraft pulp brightness. Contact your Buckman representative or visit buckman.com for more information.
FEATURES

20 Klabin’s PUMA Pulp Project
Klabin’s PUMA pulp mill, which started up in March 2016, is the largest private investment in the Brazilian Paraná State and one of the largest pulp projects worldwide.

24 A Perfect Fit
Andritz says the acquisition of Paperchine fits perfectly into its plans to strengthen its presence in North America, along with expanding the scope of products and services.

26 Has Slurry Pulp Capacity Tracked Paper Production Changes?
There have been significant changes in the world’s Slurry Pulp production over the last 10 years which affect not just the papermakers but also industry suppliers.

COLUMNS

16 Market Insight
How long will the surge in Chinese OCC and pulp prices last?

18 Sustainability Matters
Six AF&PA company members received 2017 AF&PA Sustainability Awards for their outstanding sustainability programs.

DEPARTMENTs

4 Editor’s Note
6 Industry News
14 People
15 Calendar
30 Of Interest
The National Museum of Industrial History (NMIH) in Bethlehem, Pennsylvania will soon be restoring to operation an extremely rare scale model of a Fourdrinier Paper Making Machine, and the museum could use some help from the paper industry in funding the restoration project.

SERVICES

29 Classified Ads
29 Index of Advertisers
The paper industry, or more specifically newsprint, coated and uncoated paper producers, made a lot of capacity adjustments this year – and the year isn’t over yet. Over two million tons have been permanently removed in North America in 2017, and a few more cuts are on tap for 2018, although to a much lesser extent.

In the newsprint/machine finish grades, an estimated 1.079 million tons were removed through machine closures and a machine grade conversion. In coated groundwood, an estimated 430,000 tons have been removed via two machine closures, while 128,000 tons will be eliminated with the closure of UPM Blandin’s PM5 in 2018. In coated freesheet, some 565,000 tons are gone as the result of West Linn Paper closing its doors and Appleton being sold to Industrial Assets Corp. who is looking to sell or lease the assets.

According to industry reports, the paper markets are very tight and look to stay that way for the foreseeable future. The wildcard in the mix is the U.S. Department of Commerce announcement on Aug. 30 for the initiation of antidumping duty and countervailing duty investigations of imports of uncoated groundwood paper, i.e. newsprint, from Canada. If US tariffs go through in 2018, prices would become volatile.

On the market pulp front, UPM and the Government of Uruguay are working together on the feasibility of a two million tons per year eucalyptus pulp mill UPM is proposing to build near the city of Paso de los Toros in central Uruguay. UPM said the total investment by Uruguay is estimated at USD 1 billion for logistic infrastructure, such as roads and railways, while UPM’s stake would be in the range of EUR 2 billion (see story on page 12).

Also, Fibria in August started up its new “Horizon 2” pulp mill in Três Lagoas, Brazil. The new mill will add 1.95 million tons of pulp per year to Fibria’s production capacity.

A Friend is Gone
On a sad note, a friend of PaperAge and the O’Brien family, and one of the nicest guys I have ever met in or out of the paper industry, passed away on October 4 – Drew Cochrane. Drew worked in the chemicals business, starting in 1969 with Olin Chemical where he was Director of Marketing for Chlor Alkali. In 1991 he joined the former Eka Nobel (Eka Chemicals) in Georgia. Drew retired as Director of Marketing and Sales in 2006. He and his wife Linda then moved back to Connecticut.

Drew was a really great guy, always enjoyable to be with. We visited Eka’s headquarters a number of times through the years and Drew never failed to arrange a round of golf with a bunch of the guys from the company. We also got together at industry trade shows and every year in New York City at AF&PA’s Paper Week.

After Drew retired from Eka, we continued to get together for golf and dinner – sometimes in Connecticut and other times in our neck of the woods in Massachusetts. He also continued the “tradition” of coming to NYC on the Monday of Paper Week just to get together and have dinner. Giambelli’s, an Italian restaurant which has since closed, on East 50th St. in Midtown was his favorite. When the waiter would ask what everyone would like, Drew would say, “You decide for us.” Five courses later, I think we had a sampling of every dish on the menu, and it was tremendous.

Drew will be dearly missed by all who knew him.
More Choices

- Representing North America’s leading industrial brands
- Access to over 6.9 million SKUs
- Convenient and simple ways to order via mobile, desktop, toll-free calling, or one of our locations

More Expertise

- More than 1,700 experienced account representatives
- Over 200 field product specialists available to solve your toughest challenges
- Unmatched technical and application support

More Solutions

- Local parts and supplies inventory for fast turnaround
- Repair and fabrication technicians
- Account representatives and hundreds of branches located throughout North America for your convenience

Expect More With Motion.
Graphic Packaging and International Paper to Create a $6 Billion Integrated Paper-Based Packaging Company

Graphic Packaging Holding Company will create a $6 billion paper-based packaging company by forming a new partnership comprised of Graphic Packaging’s existing businesses and International Paper’s North America Consumer Packaging business. Graphic Packaging Holding Company will own 79.5 percent of the partnership and will be the sole operator. IP will own 20.5 percent of the partnership, equivalent to a $1.14 billion value. The partnership will assume $660 million of IP debt.

There will be no change to Graphic Packaging’s current Board of Directors or leadership team.

International Paper’s North America Consumer Packaging business is a $1.6 billion revenue leading producer of solid bleached sulfate (SBS) paperboard and paper-based foodservice products globally. The business includes two SBS mills located in Augusta, Georgia and Texarkana, Texas with annual production capacity of 1.2 million tons of SBS, three converting facilities in the U.S and one in the U.K., with the capacity to convert 250,000 tons of SBS paperboard into over 24 billion units of paper-based cups and cylindrical containers.

According to Graphic Packaging, IP’s business is projected to generate Adjusted EBITDA of $210 million in 2017.

“We are excited about the platform for future growth created by this combination,” said Graphic Packaging President and CEO Michael Doss. “We expect the transaction will significantly increase our mill production and converting scale, meaningfully increase our exposure to the growing foodservice market, provide significant runway to realize synergies, and drive strong financial results.

“The $75 million in synergies is compelling and will be driven by cost reductions, increased paperboard integration, and procurement and mill efficiencies,” Doss added.

Mark Sutton, IP’s Chairman and CEO, said, “Investing in Graphic Packaging gives IP the opportunity to benefit from a much stronger value-creation consumer packaging platform, while allowing us to remain focused on growing value in our core businesses. Our North America Consumer Packaging business has a talented team, very good assets and great customers, and I am confident of the results the combined business will achieve.”

The transaction, which has been approved by the Board of Directors of both companies, is subject to standard closing requirements and regulatory review and is expected to close in early 2018.

Cascades Invests $21 Million to Increase Production of Packaging for Fresh Foods

Cascades Inc. will invest $21-million in its Cascades Inopak (Drummondville) and Plastiques Cascades (Kingsey Falls) plants in order to acquire equipment enabling it to increase its production of food packaging, primarily for the fresh protein market.

The Cascades Inopak plant in Drummondville will benefit from a $15-million investment, which will be used to expand the existing building and to install a high-performance rPET film manufacturing line that is unique in Canada and which includes a built-in, cutting-edge decontamination unit. This will make it possible to significantly increase the production capacity of Integral™ packaging, which is made from recycled PET, is recyclable and allows food in certain markets, such as fresh protein, to be kept for double the amount of time.

Nearly $6 million will be invested in the Kingsey Falls Plastiques Cascades plant to modernize equipment, notably by adding a new extrusion line and two recycling lines, which will increase the production capacity by 25% and double the plant’s internal recycling capacity. The Kingsey Falls plant produces EVOK®, a polystyrene foam tray that contains at least 25% recycled materials.
Periodic monitoring of press section felt condition requires a cross-profile measurement at the running machine. However, many paper mills now forbid a crossing of the running machine due to safety reasons. Furthermore, manual measurement is often impossible due to limited accessibility, and does not always produce consistent results. With the operator now safely outside the machine, the IBS safetyMASTER™ is the optimal solution and guarantees:

- Absolutely safe felt profile measurements at the running machine
- Felt profile measurements even in difficult positions which are difficult to access
- Constant and reproducible measurements

We are particularly pleased to welcome a recognized technology leader such as IBS in our paper machine partnership network. For Heimbach, customer safety is always a top priority so safetyMASTER™ offers customers a safe and reliable tool, both in terms of exact and consistent measurement results plus high quality health & safety standards.

Peter Michels, Managing Director, Heimbach Group
Graphic Packaging Holding Company’s wholly-owned subsidiaries, Graphic Packaging International, Inc. and Graphic Packaging International Canada, ULC, have agreed to acquire the assets of Seydaco Packaging Corp. and its affiliates National Carton and Coating Co., and Groupe Ecco Boites Pliantes Ltée.

Seydaco is a folding carton producer with a leading position in Canada focused on the foodservice, food, personal care, and household goods markets. Seydaco converts approximately 20,000 tons of paperboard annually and operates three converting plants located in Mississauga, Ontario, St.-Hyacinthe, Quebec, and Xenia, Ohio. The business generated revenues of approximately $40 million and low double digit EBITDA margins on an LTM basis. Synergies from the acquisition will be driven by the integration of additional paperboard tons and cost efficiencies.

“The announced transaction is consistent with our strategy to pursue acquisitions that allow us to grow our folding carton volume in attractive geographies and end-markets, improve our cost position, increase our mill to converting plant integration levels over time, and that we can close at compelling post-synergy EV/EBITDA multiples,” said President and CEO Michael Doss.

The acquisition is subject to standard closing requirements and is expected to close in the fourth quarter 2017.

Sentinel Capital Partners Acquires Nekoosa

Nekoosa on Nov. 3 announced the sale of the business to Sentinel Capital Partners. Financial terms of the deal were not disclosed.

Nekoosa is made up of Nekoosa Coated Products, RTape Corp, and CET Films.

Sentinel Capital Partners, a New York based investment firm, partnered with Nekoosa to support continued growth for the company and its growing customer base through new product introductions and acquisitions.

“Nekoosa gives Sentinel an opportunity to partner with a differentiated industry leader that draws on a unique, niche product offering that is considered the ‘gold standard’ in its markets,” said Scott Perry, a partner at Sentinel.

Nekoosa produces a comprehensive suite of specialty engineered materials in four key product areas: application and pressure sensitive tapes; specialty synthetic papers; sheeted digital and offset grade carbonless paper; and extruded film products.

Paul Charapata, CEO of Nekoosa, said, “In the last five years, we successfully executed four add-on acquisitions, launched innovative new products, enhanced core product performance, and expanded our global distribution partnerships. We look forward to working closely with our fantastic new partners at Sentinel to continue our positive growth trajectory.”
Connecting expertise to improve operations

Collaborative Operations

ABB Collaborative Operations Centers around the world, dedicated to the pulp and paper industry, are a part of the ABB Ability™ portfolio of industry leading digital solutions. Solutions that will connect pulp and paper mill operators, control-room experts and ABB’s domain expertise in pulp and paper automation and electrification. People in production facilities and enterprise headquarters can, with ABB’s technology and expertise, do more, do better, together. To find out more contact your local ABB account manager or visit: abb.com/pulpandpaper
Appvion on Nov. 9 announced plans to consolidate the majority of the carbonless paper coating and rewinding operations currently performed at its plant in Appleton, Wisconsin, to its integrated pulp and paper mill in Roaring Spring, Pennsylvania, and relocate the Appleton Plant’s sheeting operations to an Appvion-operated facility near the mill.

The company expects the transition will begin in January and be completed in the third quarter of 2018.

In a press release Appvion said, “Consolidating Appvion’s carbonless paper manufacturing, rewinding, and sheeting to the Roaring Spring area, where Appvion already produces this product, will help position the company for long-term success by increasing the efficiencies of its manufacturing and logistics operations.”

Kevin Gilligan, Appvion’s CEO, explained, “Our consolidation plan is an important operational improvement initiative designed to enhance Appvion’s competitive position in the carbonless paper market. This move will allow Appvion to most effectively serve current and future demand for carbonless products and maintain our commitment to a market that we have been proud to serve since our company helped introduce this product 63 years ago.”

The consolidation plan will result in the shutdown of three under-utilized coaters and related rewinding and sheeting equipment at the Appleton Plant and the elimination of approximately 200 hourly and salaried jobs at that facility. Approximately 300 hourly and salaried plant employees will be retained at the Appleton Plant to continue producing the company’s thermal paper products and some carbonless and specialty coated grades.

Employment at Roaring Spring Mill and at Appvion’s thermal paper coating plant in West Carrollton, Ohio, will be unaffected by the plan.

Gilligan continued, “We greatly appreciate the role the affected employees at the Appleton Plant have played in serving customers over the years and we are committed to helping them through this transition.”

The implementation of the plan is pending discussions with representatives of the Appleton Plant’s Local 2-0469 of the United Steelworkers Union regarding the reasons for and effects of the company’s consolidation plan.

West Linn Paper Company in Oregon in mid-October announced that it is ceasing operations and will commence a winding up of its business supervised by its second lien lender.

“We are deeply disappointed to end the mill’s 128 year history, the last twenty of which resulted from a major restructuring and restart when our current ownership took control of West Linn Paper Company,” said Brian Konen, Chief Operating Officer for West Linn Paper Company. “The commitment and support that we received from our employees, our lenders and our owners as we sought to adapt to structural changes in our markets has been remarkable.

“However, several unforeseeable events have led to a significant reduction in available pulp, making continued operations impossible. As a result we will wind up our operations as quickly and efficiently as possible, beginning immediately,” Konen said.

As of end-2015, West Linn Paper Company employed about 250 people. The mill has three paper machines and an overall capacity to produce 260,000 tons of coated freesheet paper.
The combination is new, but the expertise and capabilities in papermaking are well proven. Adding Paperchine’s products and experts to the experienced ANDRITZ paper team gives us expanded capabilities when we walk into your paper mill. As a papermaker, you benefit from the enhanced range of engineered solutions (such as Paperchine’s horizontal GapFormer, wet end drainage, forming, and VIB moisture profiling systems) that we can offer in addition to our own products — all from one supplier.

Plus, we have strengthened our engineering and diagnostic services with the tools and knowledge that Paperchine experts bring. The Paperchine acquisition — now ANDRITZ Paperchine — keeps you at the forefront of papermaking technology with a global, full-line partner.
EUROPE

Stora Enso to Invest EUR 94 Million at Enocell and Imatra Pulp Operations

Stora Enso will invest a total of EUR 94 million at two of its pulp mills in Finland. EUR 52 million will be invested to increase the dissolving pulp production capacity at Enocell Mill and EUR 42 million to enhance the availability of the chemi-thermomechanical pulp (CTMP) at Imatra Mills.

Enocell Mill, part of the Biomaterials division, will be converted to focus entirely on the production of dissolving pulp. The mill’s softwood pulp production will be gradually discontinued after the investment. The mill will have a total capacity of 430,000 tonnes of dissolving pulp annually – 185,000 tonnes hardwood and 245,000 tonnes softwood dissolving pulp. The project is scheduled to be completed during the second half of 2019.

Stora Enso noted that the dissolving pulp product segment is growing above the industrial average due to increased demand for non-woven applications and viscose-type fabrics in the textile industry.

“We aim to improve our pulp mix to differentiate and secure competitiveness in the long term,” said Markus Mannström, head of Stora Enso’s Biomaterials division. “At our Nordic pulp mills this means focusing on special grades, such as fluff and dissolving pulp. The investment also supports Enocell Mill to become an integrated biorefinery plant for new bio-based chemicals.”

The investment at Imatra Mills, part of the Consumer Board division, includes a new CTMP drying and re-pulping plant as well as extension of the pulp warehouse. The project will enhance the availability of CTMP and to drive the commercialization of microfibrillated cellulose (MFC), Stora Enso said.

“Due to its high strength and 100% renewable raw materials, MFC is designed to outperform fossil-based materials, such as plastics, in a variety of applications,” the company explained.

The project is scheduled to be completed in the first half of 2019.

SOUTH AMERICA

UPM Plans to Build Two Million tpy Pulp Mill in Uruguay

UPM and the Government of Uruguay have signed an investment agreement that outlines the local prerequisites for a potential pulp mill investment. The site of the mill would be close to the city of Paso de los Toros, in the department of Durazno in central Uruguay.

According to UPM, the Uruguay government will develop the rail and road network by tendering the construction and long-term maintenance of the network. The total investment by the Government has been reported to be approximately USD 1 billion. This investment is necessary to enable the establishment of efficient logistic infrastructure in the Uruguayan inland. The Government will also promote concession for a terminal specializing in pulp in the Montevideo port with rail access in order to secure reliable and competitive outlet to export markets.

Once the permitting requirements are fulfilled, the Government will grant the mill a free trade zone status, which is necessary to ensure competitiveness on international markets, UPM said.

UPM will carry out an engineering study and permitting process for a pulp mill with an annual capacity of about 2 million tonnes of eucalyptus market pulp. The preliminary estimate for a pulp mill investment on site is approximately EUR 2 billion.

“The signing of this agreement confirms that we are now entering the second preparation phase of this prospect, which is expected to take some 1.5 to 2 years,” said Jaakko Sarantola, UPM’s Senior Vice President, Uruguay Development. “Achieving significant progress in the implementation of the infrastructure initiatives is critically important for the final investment decision.”

Neenah Paper Completes $45 Million Purchase of Coldenhove

Neenah Paper on Nov. 1 completed the purchase of the outstanding equity of W.A. Sanders Coldenhove Holding B.V.

Coldenhove, whose trade name is Coldenhove Papier, is a specialty materials manufacturer based in the Netherlands, with a leading position in digital transfer media and other technical products. The company has annual sales of over $45 million with EBITDA of approximately $6 million.

“This acquisition adds to our technical products portfolio with products, technologies and a customer base that nicely complement our existing digital transfer business, further accelerating our participation in profitable growing markets,” said John O’Donnell, CEO of Neenah Paper.

Upon closing, the Neenah made a cash payment of approximately $45 million. The payment was financed through almost $14 million of available cash on hand, with the balance from incremental borrowing against its existing global revolving credit facility.
Kemira has been recognized by the CDP for reaching the Leadership A-level (scoring range from A to D). The result reflects a good level of environmental stewardship, actions to reduce carbon emissions, and management of climate change related risk and opportunities.

“To achieve this good result requires systematic energy and environmental management practices,” said Tuula Paajanen, Corporate Responsibility, Kemira. “Our mitigation measures to reduce carbon emissions from our own operations include energy efficiency enhancement activities through technology improvements and energy mix management. We favor low carbon energy sources always when available in the market at competitive prices. We also need good environmental data management practices enabling data collection, consolidation and monitoring of our key performance indicators.”

CDP is an international non-profit organization working on behalf of investors. It provides the capital markets the world’s largest database of corporate environmental information, covering climate, water and forest-risk commodities.

**EUROPE**

**Dunapack Packaging to Build Corrugated Packaging Plant near Bucharest**

Dunapack Rambox, Dunapack Packaging’s Romanian operations, has signed an agreement to purchase land for the construction of a greenfield corrugated packaging plant in the Bucharest area.

The new 22,000 square meter plant in Bolintin (about 20km west of Bucharest) will be equipped with a 2.8 meter wide Fosber high-speed corrugator as well as several multi-color printing and die-cutting machines to produce high quality shelf ready packaging. The annual production capacity is expected to reach 180 million m² per year.

The new plant will compliment the existing Dunapack Rambox plant in Sfântu Gheorghe, which will increase its production capabilities after a corrugator upgrade combined with a new flatbed die-cutting machine and a new folder/gluing machine. Both plants will reach an annual production capacity of 300 million m².

**INDUSTRY SUPPLIERS**

**Kemira Reaches Leadership A-Level in CDP’s Climate Program 2017**

Kemira has been recognized by the CDP for reaching the Leadership A-level (scoring range from A to D). The result reflects a good level of environmental stewardship, actions to reduce carbon emissions, and management of climate change related risk and opportunities.

“To achieve this good result requires systematic energy and environmental management practices,” said Tuula Paajanen, Corporate Responsibility, Kemira. “Our mitigation measures to reduce carbon emissions from our own operations include energy efficiency enhancement activities through technology improvements and energy mix management. We favor low carbon energy sources always when available in the market at competitive prices. We also need good environmental data management practices enabling data collection, consolidation and monitoring of our key performance indicators.”

CDP is an international non-profit organization working on behalf of investors. It provides the capital markets the world’s largest database of corporate environmental information, covering climate, water and forest-risk commodities.

**PUT TO THE TEST**

**Why Aldon® Chocks Are the Best**

**STEEL CHOCK TEST**

**LOCATION**
ARA Transportation Technology Center

**TEST OBJECTIVE**
Determine lbs. of pulling pressure needed to overcome chock resistance.

**TEST PROCESS**
Winch cable attached to 130 ton loaded hopper car. Brakes not applied.

**RESULT**
Chocks withstand 25,000+ lbs. of drawbar pull — equal to 32% of a locomotive drawbar pull.

**URETHANE CHOCK TEST**

**LOCATION**
Texas shortline

**TRACK**
1.5° downhill slope, 10° curve.

**LOAD**
6-axle locomotive, engine idling, coupled to 100-ton hopper car. Gross weight 633,300 lbs.

**RESULT**
All brakes released: no sliding, chock held wheel in place. Engineer had to rev up to 3/8 full power to ride over chock.

*Replaceable spurs bite into the rail to keep the chock from sliding.*

*Molds to rail and wheel for superior holding power. Ride over chock under power.*

4 TIMES THE LIFE of any other chock

When spurs become dull from use, turn to a new sharp edge. After 3 turns, replace the spur, not the chock.

*watch the videos: aldonco.com/chocktests*

847.623.8800 ALDON Company, Inc. www.aldonco.com

Manufacturing rail safety products since 1904.
BillerudKorsnäs has named Petra Einarsson as the new President and CEO of the company, effective at the turn of the year. Einarsson succeeds Per Lindberg who is, after 12 years, leaving BillerudKorsnäs on his own request for a new assignment. Since 2013, Einarsson has served as President of Sandvik Materials Technology and a member of the Group Executive Management of Sandvik AB.

Catalyst Paper has appointed Edward (Ned) Dwyer as President and Chief Executive Officer. Dwyer is an industry veteran with more than 30 years in the pulp and paper industry. He most recently served as Catalyst’s Chief Operating Officer. Dwyer holds a Bachelor of Science (Paper Science and Engineering) from the State University of New York and Syracuse University.

International Paper has named Scott Taylor as Mill Manager of IP’s Pensacola containerboard mill in Cantonment, Florida. Most recently, Taylor was IP’s manager of Technical Services for its containerboard business. Taylor joined IP in 2002 and has worked in several manufacturing and technical leadership roles of increasing in responsibility. In a related move, former Pensacola Mill Manager Brett De Jong has been promoted to International Paper’s manager of Investments for its Containerboard business. In his new position, De Jong will be responsible for leading the implementation of the strategic capital investments for IP’s Riverdale Mill containerboard machine conversion in Selma, Alabama. De Jong has been with IP since 1997.

Metsä Fibre announced the appointment of Camilla Wikström as SVP, Production at Pulp Business and a member of Metsä Fibre’s management team, effective Jan. 1. Wikström is currently working as mill manager of Äänekoski bioproduct mill. Metsä Fibre also appointed Ilkka Poikolainen as VP, Mill Manager of Äänekoski bioproduct mill, effective Jan. 1. Poikolainen is currently working as mill manager of Rauma pulp mill.

Monadnock Paper Mills announced that Dawn Soucek has joined the company’s sales and marketing team as a Senior Technical Sales Manager. For over 11 years, Soucek was responsible for developments in specialty barriers and packaging at Verso Specialty Papers.

PaperWorks Industries announced that C. Anderson “Andy” Bolton has joined the company as President and Chief Executive Officer. Most recently, Bolton was president of Crown, Cork & Seal’s Aerosols, Closures & Specialty Packaging North American (NA) divisions.

Södra announced that Maria Baldin has been appointed the new Director of Communications and Sustainability, and will be a member of Group Senior Management, effective Jan. 1. Baldin most recently served as Head of Communications and Sustainability Officer at Siemens Sweden.

INDUSTRY SUPPLIERS

A.Celli Group announced that Thomas Bentzler has been appointed as the new Director of Sales - Paper & Tissue, for North America.

Fisher International announced that Deborah Sauer will serve as Global Head of Marketing. Before joining Fisher, Sauer worked as head of external communications for HARMAN International, a wholly owned subsidiary of Samsung. She will be based at Fisher’s headquarters in Norwalk, Connecticut.

Motion Industries announced that Stacy Lenard has been named Vice President / General Manager of the company’s Dallas Division. In this new position, Lenard will oversee the sales and operations of 15 branches in the Dallas area. Lenard has been with Motion Industries since 1989.
A Tradition of Quality, Innovation and Reliability

Rodewisch is a full service manufacturer of felts, dryer fabrics, filter screens and conveyor belts for a multitude of applications in the pulp and paper industry. Our specialties include spiral belts (shown) and woven fabrics. We have been developing specialized fabrics for challenging applications for 140 years.

Rodewisch provides high quality leading-edge products, short delivery times, excellent service and consultation on special requests. Attention to detail. Made in Germany.

In North America:
Rodewisch, Inc.
17 Doughty Drive, Ste. 210
Brewer, Maine 04412
207-989-9600
info@rodewischinc.com

Headquarters/Manufacturing:
Filztuchfabrik Rodewisch GmbH
Polenzstraße 101
08485 Lengenfeld
Germany
www.filztuch.de/en
How Long Will Surge in Chinese OCC and Pulp Prices Last?

By Chip Dillon, Analyst, Vertical Research Partners

Mid-October 2017 - Recently, trade publisher RISI noted that the cost of purchasing Chinese pre-consumer and US-sourced (already in China) recyclable old corrugated containers averaged $523 per metric ton (tonne - including a 17% VAT). That price compares to $496/tonne just one week earlier and $443/tonne two weeks earlier. Note that these levels are more than double levels seen within the USA. We have identified a number of causes for the price spike of Chinese OCC, namely the lack of new import licenses for OCC since May, tougher environmental inspections of recovered paper (RCP) at Chinese ports, the revocation of import licenses from mills that still have capacity under their quotas, and the MEP’s (Ministry of Environmental Protection) decision to reduce the maximum contamination level of RCP to just 0.3% from 1.5%.

The Chinese authorities’ actions have not only resulted in higher domestic OCC prices but also significantly lower imported OCC prices – which of course benefit just a handful, usually large, producers since most of them cannot purchase this material. The price of US-sourced OCC being exported to China has fallen sharply in recent weeks. Just this past July US-sourced OCC was imported for an average price of $295/tonne. As a result, recently Chinese mills paid a staggering $323/tonne premium (161%) for similar quality OCC that simply is already in China as opposed to imported. Even more interestingly, the “weird spread” we have mentioned in past reports (that is, the difference in price between high-quality imported US OCC and domestic low-grade OCC in China) recently reached $236/tonne from $100/tonne in the end of August. It goes without saying that this situation cannot persist for much longer.

Market Pulp – Strong Demand from China

Similarly, bleached market pulp prices have enjoyed a strong 2017 so far. Despite some softness in June/July, price increases have been announced and implemented on the Chinese market with much more severity since August. The spike in pricing has been surprising. Of course a “doomsday” scenario where pulp prices would collapse as new capacity in Brazil and Indonesia came online was farfetched. Yet we cannot deny that we view recent increases – especially the recently announced changes of $80 to $100 per tonne (depending on the pulp grade) – with skepticism.

In fact, the recent announcements by many producers represent that single-largest price increases in a decade. Many exporters to China announced recently a $100/tonne increase in NBSK (northern bleached softwood pulp), while Russian BSK (bleached softwood pulp) producers followed with an $80/tonne increase. These price changes appear to have gone through with no resistance, and are already reflected in RISI’s September pricing; more specifically, imported NSBK is now at $795/tonne from $695/tonne in August and Russian BSK is at $745/tonne vs $665/tonne in August. For NBSK, prices likely rose further in October, as several North American producers such as Catalyst Paper slated price increases that likely brought their list prices to over $800/tonne.

Anecdotal evidence supports the conclusion that demand for pulp in China is strong, even at these price levels. According to RISI, for example, a major producer reported that his October pulp allotment was sold out “immediately” following the price adjustments. We note that import prices are simply playing catch up for now. Following some softness in the market in June/July, domestic resale prices increases have greatly outpaced import price increases; during the past two months NBSK prices, for example, are up more than 40% vs less than 30% for import prices of the same pulp grade. That created a wider than usual spread for Chinese traders, thus allowing them to pay up for imports. Just in early September, the price gap between resale and imported pulp skyrocketed to over $240/tonne; that has since narrowed to “just” $154/tonne as resale prices slightly ticked up in September at the same time that the $100/tonne price hike kicked in.

What’s Behind the Spike in Domestic Pulp Prices in China?

With the spread between resale and import prices at a very high level, the reason behind stronger import prices is rather obvious. The real question is why have domestic prices in China expanded by 40%+ in just a couple of months? Unlike the OCC situation, here we struggle to find adequate answers. And, when the market moves that much without sufficient rationale, we remain skeptical of such move. For now we can only speculate. Among the possible reasons behind the price increases are:

1) tighter supply due to an extended downtime at CMPC’s 1.3 mln tonnes/year BEK (bleached eucalyptus kraft) mill in Guaiaba, Brazil, until November;
2) Chinese paper and board mills restocking;
3) Chinese paper and board mills agreeing to higher pulp prices in order to push their own price increases to their customers;
4) tighter environmental inspections by MEP curtailing domestic pulp supply.

Of these four reasons, we believe the first is not sufficient on its own to explain the recent phenomenon, although it could be part of the puzzle. The second reason could be true, although it would put a lot of pressure on pulp prices once said inventory build is complete. We note that a restocking “panic” could have been caused by expectations for ample supply once new mills came online; as a result paper and board mills held off purchases in spring/early summer in anticipation of lower prices, and were eventually forced to reenter the market with increased orders. The third reason has been “circling around” for a long period of time, but remains speculation. Lastly, the last possible explanation is quite likely. We have learned from RISI about stricter environmental inspections in paper and pulp mills (including containerboard mills) as authorities sought to curb pollution ahead of the Chinese Communist Party’s 19th National Congress (held every five years) that began on October 18th.

Conclusion
Regardless of whether we are discussing OCC or pulp, we believe that prices will sooner or later move lower. We have laid out our thinking on OCC prices numerous times – we see the situation as unsustainable as it forces domestic containerboard producers to increase their prices to levels that are already stimulating containerboard imports from other Asian countries; forces many (smaller) mills to shut down due to significant losses; and lastly, hurts China’s economy as corrugated boxes are a staple of its industrial base. We believe that by the end of 2017 (or early 2018), China will start issuing import licenses for 2018, and once that happens we expect a buying frenzy for much cheaper and higher quality US OCC that will drive US prices much higher than their current level.

On pulp, we do not see evidence of demand that would justify $100/tonne monthly prices increases. While demand could be healthy and Chinese pulp prices should remain strong, the recent hikes do not appear sustainable either. Whether we are experiencing a restocking by Chinese mills or many domestic pulp facilities are curtailing operations due to environmental inspections, once things reverse we should see pulp prices – both resale and imports – move lower.

Chip Dillon is a Partner at Vertical Research Partners (www.verticalresearchpartners.com) covering the Global Paper and Packaging Industry. He is a Chartered Financial Analyst (CFA) and consistently ranks highly in the major polls/surveys of U.S. Packaging & Forest Products analysts, including a #1 ranking on eight occasions in the Institutional Investor (II) poll.
Sustainability Excellence: AF&PA’s 2017 Sustainability Award Winners

By Donna Harman, President and CEO, American Forest & Paper Association

Six AF&PA company members received 2017 AF&PA Sustainability Awards for their outstanding sustainability programs. Our annual awards program honors AF&PA members for projects that contribute toward achievement of our Better Practices, Better Planet 2020 goals and exemplify the industry’s commitment to sustainability.

AF&PA sustainability award applications are judged by an external group of sustainability experts and awards are given for two primary categories. The Leadership in Sustainability category recognizes projects that support the Better Practices, Better Planet 2020 sustainability goals; the Innovation in Sustainability award is reserved for projects that merit recognition for their contribution to sustainable business practices, rather than a specific goal.

Resolute Forest Products received the Leadership in Sustainability Award for Energy Efficiency and Greenhouse Gas (GHG) Reduction for their GHG Reduction Program. Resolute adopted a series of sustainability commitments, including a goal to reduce GHG from their facilities by 65 percent between 2000 and 2015. By improving the energy efficiency of their operations and increasing use of lower carbon fuels, Resolute surpassed that goal. At the end of 2016, the company had lowered GHG emissions by 73 percent compared to 2000 levels.

International Paper’s Certified Forest Management LLC was awarded the Leadership in Sustainability Award for Sustainable Forest Management for accomplishments of its Forest Stewardship Council (FSC) forest management group. Following customer demand for certified products, International Paper developed this cost-effective means for small private landowners to become FSC certified. Since 2012, the company directly enrolled and actively maintained certification for 210 private landowners in ten states, significantly increasing certified forestlands and their certified fiber supply in the process.

Sappi North America was recognized with a Leadership in Sustainability Award for Safety (Large Company) for their Over Two Million Hours Worked Without Lost Time Injury project. Sappi’s Cloquet, Minnesota mill implemented four unique safety programs, engaging and educating its employees on recognizing safety issues, reducing risk of injury, maintaining a safe work environment, and creating and sustaining safety standards. The programs led the mill to reach a company milestone of two million hours worked without a lost time injury – an equivalent to over 450 days without significant injury.
Seaman Paper Company’s Raising the Reels for Safety project received a Leadership in Sustainability Award for Safety (Small Company). To improve the safety culture at their Otter River, Massachusetts mill, Seaman Paper used a simple, foolproof solution. Older paper machines like the ones at the company’s mill were designed with lower reel heights, which exposed machine operators to a safety hazard. Seaman Paper opted to retrofit their machines by adding stands to the reels, elevating the centerline of the hazard and literally moving it out of their employees’ reach.

American Eagle Paper Mills was recognized with a Leadership in Sustainability Award for Water (Small Company) for Project Phoenix, which was commissioned to increase efficiency and reduce water use at American Eagle’s Tyrone, Pennsylvania, mill – one of the oldest working paper mills in the United States. Infrastructure updates resulted in an 83 percent reduction in total daily river and watershed water withdrawal; a 91 percent reduction in daily water consumption; and an 18.1 percent reduction in process water effluent per ton of paper produced.

WestRock won two awards: a Leadership in Sustainability for Water (Large Company) for their Covington Mill Power Boiler Ash Handling Systems, and the Innovation in Sustainability Award for Moving Products the Green Way. WestRock’s Covington, Virginia mill converted its boiler ash handling system from a water-managed to a dry ash system to optimize its management of fly ash – a byproduct of burning coal in boilers for energy in the paper mill’s manufacturing process. Benefits include an 8 percent reduction in daily water usage at the mill, improved water effluent quality, and increased opportunities for reuse of the fly ash.

For Moving Products the Green Way, WestRock enhanced and deployed a software tool that allows its manufacturing facilities to calculate the optimum product cargo load pattern and weight per truck, railcar or intermodal container. The tool facilitates reduction of the amount of shipments needed to provide on-time delivery of products to their customers, while saving money, avoiding fossil fuel use, and reducing GHG and other air emissions associated with their transportation footprint.

These projects are among the best examples of how the industry is working towards achieving the Better Practices, Better Planet 2020 sustainability goals and making other sustainability strides. AF&PA is proud to honor our members’ successful projects and hopes they inspire sustainability initiatives elsewhere.

To learn more about the AF&PA Sustainability Awards program and Better Practices, Better Planet 2020 initiative, visit www.afandpa.org/sustainability
Klabin’s PUMA Pulp Project

Klabin’s PUMA pulp mill, which started up in March 2016, is the largest private investment in the Brazilian Paraná State and one of the largest pulp projects worldwide.

By Paulo Aguiar, Director, Pulp Drying, Valmet

The construction of a large-scale pulp facility is not an easy task. A greenfield project includes tonnes of equipment and thousands of people, from the project design phase to groundbreaking works, erection, commissioning, and the final start-up process. The key is to successfully gather different stakeholders from multidisciplinary teams.

A combination of broad technological knowhow, innovation and a strong presence in Brazil made Valmet the best choice for supplying the pulp drying lines for one of the biggest pulp projects worldwide: Klabin’s PUMA pulp mill project, located in Ortuigaeira municipality, in the Brazilian Paraná state.

The R$ 8.5 billion (EUR 2.2 billion) Klabin PUMA new pulp mill investment started up in March 2016 and comprised world-class Valmet technology for pulp manufacturing. The overall project challenges and deadlines were successfully met, providing technology which is undoubtedly a game changer for Klabin’s business strategy. The PUMA project has achieved a simultaneous output of 1.1 million tonnes/year of bleached hardwood pulp and 400 tonnes/year of bleached softwood and fluff pulp. The facility was designed to produce 270 MW of electricity, consuming 120 MW internally and exporting up to 150 MW to the Brazilian national grid, using 100% renewable fuels based on wood, tree bark and lignin.

FLUFF AND SOFTWOOD MARKET PULP AS END PRODUCTS

The Valmet scope of supply included two drying machines, baling and roll finishing lines. “This project was different in...
many ways. At same time, it included one of the biggest and highest capacity machines in the world, with 9.5 meters of width and a capacity of 3,500 tonnes per day, side by side with the first drying machine designed to produce both fluff and softwood market pulp in South America. The same machine can produce rolls and bales, depending on the product that the customer requires,” explains Paulo Aguiar, Valmet’s Director of Pulp Drying technology. The supply also included two winders and fully automated roll handling with plastic wraping to handle fluff production with special care.

**TESTS ON VALMET PILOT MACHINE FOR OPTIMUM SHEET FORMATION**

“Fluff is a product that requires high quality and additional physical properties than those measured in normal market pulp. Klabin has invested in research and development to ensure that we would have the best product available since we were entering a new market and looking forward to achieving differentiation in quality,” Klabin’s Technology and Pulp Business Unit Director Francisco Razzolini states. “At same time, we wanted to have a flexible machine, to produce a high capacity of softwood market pulp, without sacrificing the fluff quality. We worked with Valmet in their pilot machine located in Sweden to determine the optimum design in the sheet formation that would allow the best for both products,” he adds.

The product development didn’t stop in the forming section. The machine was also equipped with caliper control that assures parallel jumbo rolls, which is crucial for good operation of the winders. It may seem simple to achieve on a paper machine, but in a drying machine where the grammage is 10 times higher than paper, it is not an easy task.

“We have developed the project to produce fluff with low defibration energy properties, one of the most valued parameters in the market,” comments Sadi Oliveira, Klabin Ortigueira’s Industrial Director. “The line is also fully automated, with minimal operator interference. This applies to everything from jumbo roll transportation to the packaging lines, prioritizing the safety in our operations,” he adds.

**COMMITTED TO THE ENVIRONMENT**

The PUMA project was developed using the best available technology focused on the reduction of environmental impacts, as well as the use of raw materials from planted and certified forests, socioeconomic development of nearby communities, health and occupational safety and innovation, among other aspects.

Concerning environmental aspects, a dedicated team surveyed the pre-established conditions and monitored the environmental impacts in the region of the new plant during the construction phase, testing and start-up. The atmospheric conditions, noise generated, fauna, and water quality were all
fully monitored to mitigate any possible impacts on nearby communities during all stages of the construction.

The environmental investment included the installation of a Solid Waste Treatment Plant, which aims to separate traditional reusable materials (fibers, sludges, grits, dregs) from other industrial waste, promoting its use in composites, minimizing the needs for industrial landfill.

For the construction phase, a structure was set up for the use of labor in the region, with the application of training courses and prioritizing of the use of the regional workforce whenever the professionals sought were available. “In the civil construction phase, about 80% of the construction workers were from the State of Paraná, and even in the electromechanical assembly phase, which demanded very highly-skilled professionals, local workers accounted for 50% of the workforce,” Klabin’s Project Manager João Antonio Gomes Braga says.

COMMITTED TO THE MUNICIPALITY
The PUMA pulp project was the highest private-sector investment ever made in Paraná, including infrastructure and recoverable taxes, and construction was completed in 25 months and remained well within the initial budget.

The overall construction phase generated R$ 700 million (EUR 184 million) in taxes. The facility is expected to pay R$ 300 million (EUR 79 million) in taxes annually, generating a great deal of value to local communities. “The new pulp mill and forestry operations generated 1,400 new jobs. Around 40,000 workers went through the works,” Francisco Razzolini says.

SOCIAL RESPONSIBILITY
In order to determine its social investments, in 2012 Klabin conducted a social diagnosis of the municipalities of Ortigueira, Imbaú and Telêmaco Borba, which represented the PUMA pulp mill’s direct area of influence. Through a broad participatory process that involved many different stakeholders in urban and rural areas, Klabin developed the Puma Project’s Social and Environmental Action Plan, which comprised various initiatives in the areas of health, education, culture, recreation, the environment, family farming, etc.

A LONG-TERM PARTNERSHIP
The partnership between Valmet and Klabin is not limited to the project. Klabin has outsourced the drying machine maintenance to Valmet during the first three years of operation. A team of 17 people work inside the mill, aiming to maximize availability and machine efficiency. These people can also count on Valmet’s specialists for remote access.

Paulo Aguiar is Director, Pulp Drying at Valmet. He can be reached by email at: paulo.aguiar@valmet.com.
Whatever You Rebuild, Repair and Protect.... We have the Solution

LOCTITE® Protective Coatings and Compounds restore worn surfaces and extend the life of new and existing equipment.

- Increase efficiency
- Save costs by avoiding part replacement and reducing spare-part inventories
- Protect parts against abrasion, erosion, chemical attack and corrosion

Restore and Improve the Performance of:

- Pumps
- Chutes
- Cyclones
- Fans
- Exhausters
- Conveyors/Augers
- Centrifuges
- Dust Collectors

To locate a Henkel Certified Applicator visit:
www.na.henkel-adhesives.com/protectivecoatings
or call 1-800-LOCTITE (562.8483)
A Perfect Fit

Andritz says the acquisition of Paperchine fits perfectly into its plans to strengthen its presence in North America, along with expanding the scope of products and services.

At the beginning of July of this year, Andritz Group acquired Paperchine, Inc. from AstenJohnson Holdings Ltd. Paperchine provides highly engineered equipment, machine rebuilds, and a wide range of service solutions to the paper industry. With its product portfolio and strong position in North America, it fits Andritz’s growth strategy in the paper and board sector.

Michael Pichler, Pulp Drying and Paper (KPP) Division Manager for Andritz explains that while Andritz Group has been active worldwide, its focus for paper machines has been mainly on the European market. “To continue our growth in this segment, we needed to enter other geographic markets. We found Paperchine to be the perfect fit as it realizes 85 percent of its turnover in North America and, in addition, our portfolios complement one another with virtually no overlaps.”

So why did AstenJohnson, who acquired Paperchine in September of 2011, decide to sell the business? According to Dr. Vaughn Wildfong, Senior Vice President, Andritz Paperchine, AstenJohnson decided to focus more on its core competencies. “Our machine rebuilding and equipment supply business is very different from the technical textiles business, which is AstenJohnson’s main focus. When they decided to concentrate on their core competence, they were looking for a strong partner who would develop Paperchine further – a company like Andritz.”

Paperchine at a Glance

Founded in 2000, acquired from AstenJohnson Holdings Ltd., member of the Andritz Group (KPP division) since July 1, 2017.

- Business: highly engineered equipment, machine rebuilds, and services for the paper industry with a focus on North America.
- Employees: 180.
- Locations: USA – Rockton, Illinois (headquarters), Springfield, Massachusetts, Tucker, Georgia; Vancouver, Canada; Bangkok, Thailand; Maintal, Germany.
through the merger with JohnsonFoils and VIB, well-established global suppliers specializing in forming equipment and spraying systems, respectively.

Today, Paperchine is a recognized leader in assisting customers in upgrading and maximizing the value of their paper machinery. “We are also one of the largest industry-specific service suppliers in North America,” Wildfong says. “Although our focus is on North America, we also serve customers globally.

“Rebuilding existing machinery requires ‘close-to-customer’ engineering and technical support. We have engineering, technical support, and manufacturing locations in North America and also in Germany as part of our VIB group. Additionally, we have a manufacturing facility in Thailand,” he adds.

Pichler notes that Paperchine’s products also complement KPP’s portfolio, offering papermakers important benefits. “Paperchine has excellent technologies in its current portfolio — paper machine wet ends including the horizontal GapFormer, JohnsonFoils dewatering elements, and VIB moisturizers and starch spraying equipment. This is something our European customers will benefit from.

Using the Andritz shoe press, calandering solutions, and coating technology, Paperchine will be able to supply complete solutions and systems as well as full lines. In addition, we will both benefit from each other’s manufacturing facilities in Thailand and China.

INTEGRATION PROGRESSING SWIFTLY

In regards to the integration of the businesses, Pichler says the process is moving along swiftly. “We are working together very enthusiastically, and integration is progressing really well, also thanks to Timothy Ryan, Andritz Inc.’s President in North America, who leads the integration process.

“We have split the work between ten integration teams, each with a team leader from Andritz and a counterpart at Andritz Paperchine. The teams define the necessary measures plus a timeline for each item, and the steering team reviews the process once a month,” Pichler explains.

“We are evaluating the existing solutions from Andritz and Andritz Paperchine and defining R&D projects for the years to come in order to use the huge amount of knowledge available to create something even better. In terms of markets, our focus will remain on Europe and North America for capital projects and extended services. As for service, we now have an even broader installed base with JohnsonFoils and VIB equipment, which we will use to increase our service business.”

NORTH AMERICAN PRESENCE

According to Pichler, Paperchine will play a very important role in developing Andritz’s paper and board business, especially with regard to full lines, rebuilds, and services in North America. “It is our common goal to increase the current turnover in North America by 50 percent, based on the extended scope Paperchine can offer now,” Pichler said. “In the medium term, we are also planning to offer Andritz Paperchine services to tissue producers.

“And, as mentioned before, our combined knowledge will be a very good basis on which to develop advanced solutions for our customers,” he adds.

Wildfong concludes, “We are excited to be joining the Andritz family. The product and geographic fit of our companies is excellent. Our combined product portfolio and Andritz’s brand recognition enhances our position in the market and allows us to provide more complete solutions to our customers. Communication and collaboration have been very good right from the start.”
Has Slurry Pulp Capacity Tracked Paper Production Changes?

There have been significant changes in the world’s Slurry Pulp production over the last 10 years which affect not just the papermakers but also industry suppliers.

By Cathy Greenleaf, Senior Consultant, Fisher International

Slurry Pulp – pulp that is produced in integrated mills for internal use on the mill’s paper machines – isn’t a topic that many people write about, although it’s the original source of most of the world’s fiber and one could argue it’s one of the most important drivers of the paper industry’s profitability. There have been significant changes in the world’s Slurry Pulp production over the last 10 years which affect not just the papermakers but also industry suppliers. So we thought it a good idea to catch you up. We’ll take a look at the impact of growth and contraction in paper and market pulp grades on Chemical, Mechanical, and Recycled segments and their capacity and mix.

Over the past ten years, the paper industry has seen a significant change in dynamics both regionally and through the growth and contraction of segments. But when we think of paper mill start-ups, shutdowns or shifts in demand of paper grades, we don’t always think of the impact on the supply and demand of Slurry Pulp. Yet the ability to make Slurry Pulp often determines a mill’s ability to compete.

With the capacity changes in paper and market pulp, one would assume there has been corresponding growth and contraction in Slurry Pulp. Clearly, as paper and market pulp production has increased, so has total Slurry Pulp production. While not all pulp types have reacted the same, the overall growth in pulp since 2007 has been at a rate of 2.3% CAGR so that in 2016 there was 496 million tons of Slurry Pulp capacity worldwide (Figure 1).

At the highest level, Recycled Pulp has seen the largest growth in capacity at a rate of 4.4%, while Mechanical Pulp declined at a rate of -2.9% and surprisingly, Chemical grew only 0.87% overall despite the significant growth of Chemical Slurry Pulp in Latin America.
To better understand these changes, we need to look at what has transpired with paper and market pulp capacity since 2007. As shown in Figure 2, the largest gain in tons was in Packaging grades, although Tissue & Towel and Market Pulp grew noticeably between 2007 and 2016 as well. In the same period, Newsprint and Printing & Writing declined by over 30 million tons.

In 2007, the Slurry Pulp supplied to these grades was quite varied, as one would expect. Chemical Pulp was predominant in the production of Market Pulp, Printing & Writing, Tissue & Towel, and Other Papers (Non-Papers and Specialty grades), while Recycled Pulp consumption was most concentrated in Newsprint, Packaging, and Tissue & Towel. Newsprint production was heavily reliant on Mechanical Pulp for its furnish source (Figure 3).

With the decline in Newsprint and Printing & Writing grades, one would expect to see a parallel decline in each type of pulp proportional to their use in those grades. Similarly, with the growth in Packaging and Tissue & Towel you would expect growth in the levels of furnish for those grades as seen in 2007. However, the change in each major grade has surprisingly not had a correlating change in the type of pulp used in the production of those grades (Figure 4).

In Table 1, Packaging shows a clear shift from Chemical Pulp content toward Mechanical and Recycled, while Tissue & Towel shifted more toward Chemical Pulp. Such trends can be explained by looking at the rapid growth in the number of lines producing Not Deinked Recycled Pulp in Asia (Figure 5) which were installed to meet the burgeoning demands of the packaging market in the region.

Similarly, with the increase in consumer demand for premium at-home Tissue & Towel market, there has been a noticeable migration away from Recycled fibers (which results in poorer absorption and softness) toward virgin chemical fibers (which give better performance results).

A further analysis shows even within each pulp segment the change in fiber used varied (Table 2). Within the Recycled segment, Not Deinked fiber

---

**Figure 3** Source: FisherSolve™ © 2017 Fisher International, Inc.

**Figure 4** Source: FisherSolve™ © 2017 Fisher International, Inc.

**Figure 5** Source: FisherSolve™ © 2017 Fisher International, Inc.
increased capacity much more so than Deinked; and Chemical Pulps Hardwood increased (as a result of Eucalyptus) while Softwood declined. What’s more, the types of pulp within each segment have also changed dynamics:

Mechanical Pulp lost a large percentage of share to Recycled Pulp (Table 1) as the total production capacity has declined by 10.8 million tons since 2007. The shift can largely be attributed to the decline in TMP capacity, followed by Groundwood. The TMP reduction corresponds directly to the decline in Newsprint and Printing & Writing grades and the fact that TMP pulp producers have not found replacement applications for their products. Growth in Mechanical Pulp has been in the BCTMP and APMP pulps for the Packaging and Other Papers segments due to favorable properties imparted such as printability and fiber strength.

Chemical Pulp content in paper and market pulp increased by 18 million tons over the last ten years, displacing Recycled Pulp (and some Mechanical) in Tissue & Towel, but was used much less in Packaging grades. However, for the traditional chemical Kraft Pulp producer, all is not bright. Kraft Pulp capacity from softwood fibers declined at a rate of -1.65% and hardwood (excluding Eucalyptus) declined at a rate of -0.70%. Eucalyptus production is the fastest growing fiber source in the Kraft segment – with 2016 capacity of 57 million tons (ADST) – as papermakers have learned to use this new, abundant and cost-effective hardwood replacement fiber.

Recycled Pulp – with the growth in total Recycled Pulp capacity, the number of operating pulp lines increased (from 3492 to 4108 between 2007 and 2016), as did the tons produced on a per-line basis. The Recycled segment saw the largest growth in tonnage (4.4% CAGR) as well as the number of lines operating, although there was no noticeable increase in the individual production capacity of each line. Not Deinked grew more rapidly than any pulp type as a result of the rapid growth in the Packaging grades. Deinked Pulp growth was slow, in comparison, as it has most usually been aligned with the production of Printing & Writing and Newsprint grades.

Going forward, is the use of Slurry Pulp in paper going to stay ‘status quo’? Not likely . . .

Consumer preferences, regulations and commodity pricing will drive some of the changes going forward. Current activities in the industry that will likely cause further changes:

- Switzerland – Zero Recycled content in Food Packaging
- Use of BCTMP in conjunction with Eucalyptus in the production of Tissue & Towel (Tissue World São Paulo 2017)
- Increased interest in the use of Nonwood fibers

As the world continues to increase its recovery rate and recycles more and as packaging and tissue segments continue to grow, chemical and mechanical pulp producers are continually finding new, more energy efficient, lower cost methods of producing their pulp and papermaking, creating new formulations to make paper using variations of these pulps to suit consumer demands. Given how much Slurry Pulp the world makes, these trends represent big opportunities for agile suppliers.

Cathy Greenleaf is a Senior Consultant at Fisher International (www.fishei.com). She can be reached at cgreenleaf@fisheri.com.
Hydro-Flo™ LP Deckle Systems

Improve MD & CD Profiles
Easy Operation
NO WIRE CONTACT
Very Low Maintenance
Fast Return on Investment
Increase Trim Width

Papermachine.com +1 989 695 2646

HAVE HEADBOX ISSUES? Not getting answers?
Edwin X. Graf, A.P.M., LLC
• 30+ years experience with major builders of both Hydraulic and Roll Headboxes
• Negotiated Rates
Cell: (920) 915-1845
e-mail: Headbox@aol.com

PaperAge
Take out a classified ad and reach thousands of paper industry readers.
We set up your ad free of charge.

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION
Publication Title: PaperAge
Publication Number: 0031-1081
Frequency of Issue: Bi-Monthly for a total of 6 issues published annually.
Mailed free of charge to qualified recipients. To all others: $54.00 in the U.S., $60.00 in Canada and Mexico, and $90 in other countries.
Complete Mailing Address of Known Office of Publication:
Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities: None
Tax Status: Has not changed during preceding 12 months.
Issue Date for Circulation Data Below: Sept/Oct. 2017
Extent and Nature of Circulation:
a. Total Number of Copies; Average No. Copies Each Issue During Preceding 12 Months – 9,726; b.(1) Outside County Paid/Requested Mail Subscriptions – 7,201; b. (2) In County Paid/Requested Mail Subscriptions – 0; b. (3) Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution – 415; b. (4) Requested copies distributed by other mail classes through the USPS – 415; c. Total Paid and/or Requested Circulation – 7,620. d.(1) Outside County Nonrequested copies – 1,949; d.(2) In County Nonrequested copies – 0; d.(3) Nonrequested copies distributed through the USPS by other classes of mail – 0; d. (4) Nonrequested copies distributed Outside the mail – 58; e. Total nonrequested distribution – 2,507. f. Total distribution – 9,627. g. Copies not Distributed – 99. h. Total – 9,726. i. Percent Paid and/or Requested Circulation – 79.1%
Extant and Nature of Circulation:
a. No. Copies of Single Issue published Nearest to Filing Date – 9,800; b.(1) Outside County Paid/Requested Mail Subscriptions – 7,062; b. (2) In County Paid/Requested Mail Subscriptions – 0; b. (3) Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution – 436; b. (4) Requested copies distributed by other mail classes through the USPS – 0; c. Total Paid and/or Requested Circulation – 7,503. d. (1) Outside County Nonrequested copies – 1,897; d.(2) In County Nonrequested copies – 0; d.(3) Nonrequested copies distributed through the USPS by other classes of mail – 0; d. (4) Nonrequested copies distributed Outside the mail – 350. e. Total nonrequested distribution – 2,247. f. Total distribution – 9,750. g. Copies not Distributed – 0. h. Total – 9,750. i. Percent Paid and/or Requested Circulation – 79.0%
I certify that all information furnished is true and complete.
John F. O’Brien, Jr., Managing Editor
National Museum of Industrial History to Restore Rare Scale Model Fourdrinier Paper Machine

Machine to be centerpiece of exhibit in 2018. Museum seeking pulp and paper industry’s help in funding restoration project.

The National Museum of Industrial History (NMIH) in Bethlehem, Pennsylvania will soon be restoring to operation an extremely rare scale model of a Fourdrinier Paper Making Machine. This eighteen-foot-long model, built in 1933 by Rice Barton, was commissioned by the Franklin Institute in Philadelphia. It was a working display, producing paper for the Institute’s print shop and sometimes hitting the road, being loaned to the New York Times, Milwaukee Journal, among others.

After eighteen years in storage, it is time to revive the model and employ it as the centerpiece of the NMIH’s upcoming printing exhibit next spring (2018). In conjunction with working printing presses over a century old, the paper making machine will create a dynamic, interactive, and memorable experience for guests of all ages.

For 84 years old, the machine is mechanically sound, but will require several months of cleaning, troubleshooting, and minor repairs, plus connections to utilities and a supply of pulp. NMIH looks forward to working with the pulp and paper industry as we restore the machine and prepare an unforgettable and enlightening exhibit.

“To our knowledge, this is the only machine like this built by Rice Barton, or at least the only one we know about. It was designed to actually run and make paper and did so for many years. It could once again make paper but needs an overhaul to restore it,” said Tom Rodencal, President of Tom Rodencal & Associates, who is helping to get the word out about the restoration project.

“The Museum has documentation of the original purchase and on some of the past exhibits that the machine participated in. It is built to be transportable,” Rodencal added.

A Smithsonian Institution-affiliate, the National Museum of Industrial History is dedicated to preserving America’s rich industrial heritage. Housed in an 18,000-square-foot, 100-year-old former Bethlehem Steel facility on the largest private brownfield in America, the Museum is home to exciting exhibits, engaging programs and amazing history.

Those interested in supporting the restoration project or sponsorship of the print exhibit can contact Megan Pildis in the NMIH Development Office at 610-694-6636 or email: mpildis@nmih.org.
WHERE
THE INDUSTRY
MEETS

PAPER2018
MARCH 11-13 NEW YORK

Register TODAY!

WHERE
THE INDUSTRY
MEETS

Save time! Register online!
PAPER2018.COM/REGISTRATION

Early bird registration closes February 2. Official Paper2018 Suites and all programming will be held at the Lotte New York Palace in Midtown Manhattan.

CO-HOSTED BY

American Forest & Paper Association
National Paper Trade Association
Chemistry for light, safe and sustainable board

Packaging has a critical role in protecting products as well as enhancing the brand and product experience. Through innovative chemistry and application expertise, Kemira works together with packaging & board makers to improve desired board properties such as strength and stiffness, weight and volume reduction, printability and functionality, and safety and hygiene for food packaging.

We are committed to the pulp and paper industry, and continue to help you create value through improved process efficiency, productivity and end product quality.

Let’s work together to build value into paper.

www.kemira.com