GRADE CONVERSION gives new life to papermaking line at Stracel mill

CONTAINERBOARD Market remains balanced with a careful eye on exports and growing capacity
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Buckman announces new Maximyze enzymatic technology for recycled packaging. It can significantly improve sheet strength and drainage, so you can increase machine speeds. With a customized Maximyze program you can reduce fiber costs, steam consumption, transportation costs and your environmental footprint too. No wonder it’s an EPA Presidential Green Chemistry Challenge Award winner!

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Better drainage
Production on a recycled linerboard machine was limited due to drainage. Buckman’s Maximyze application improved drainage, so machine speeds could be increased by as much as 100 mpm. Steam use was reduced 8%, and CO₂ emissions were reduced by 1806 metric tons per year.

Reduced energy
A core and tube producer wanted to increase production, have greater flexibility in its fiber selection and reduce energy use. Buckman applied Maximize to the pulper, which conditioned the fiber faster with less refining energy, preserving fiber strength. Speed increased 10%. Refining energy decreased 30%. And tensile strength increased from 20 to 26 kgf/15mm.
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Too Much of a Good Thing?

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

While a number of paper grades face declining demand due to electronic media, the same can’t be said for containerboard because until scientists can figure out a way to rearrange molecules and “beam” packages from one place to another, producing containerboard remains an attractive business to be in.

In this issue, our cover story features the conversion of a lightweight coated paper machine to the production of corrugated and testliner grades at Blue paper’s Stracel mill in France. As the title of the story implies, the grade conversion was a “reincarnation” of the machine and the mill. It worked well for the producer and the people employed by the mill.

Here in North America, there are similar grade conversion projects in nature. In addition, there are plans for more than one greenfield mill, expansion of existing containerboard capacity, countered by machines being indefinitely idled and in some cases permanently closed. The resulting picture from the additions and subtractions of containerboard capacity in the next couple of years remains unclear.

Analysts Chip Dillon and James Armstrong at Vertical Research Partners say a “base case” scenario of NA containerboard capacity in 2017 will be in the vicinity of 40.5 million tons by 2017, when all factors are taken into consideration. This would be an increase of about 1.56 million tons from the actual 2014 figure of 38.93 million tons. They also point out that “North American capacity will be little changed from now until at least the middle of 2017.”

In the light of our cover story, I’ll highlight the three paper machine grade conversion projects in North America — one has been completed; one is on the verge of starting up; and one has recently been initiated.

A former newsprint machine that can now produce both corrugating medium and light-weight linerboard is at Packaging Corp. of America’s mill in DeRidder, Louisiana. The reborn No. 3 machine has the capacity to 355,000 tpy. It started up in October 2014 with production ramping up during 2015. As of this writing, PCA may have No. 3 running at 100% utilization, but I can’t say that for sure.

Back in November of 2014, FutureMark closed its recycled coated printing and writing papers mill in Alsip, Illinois. But Corrugated Supplies Co. (CSC) of Bedford Park, Illinois in January 2015 bought the mill at auction and decided undertake a grade conversion for the mill’s coated paper machine. The plan is for the machine to produce 190,000 tpy of recycled medium. Start-up was slated for the beginning of this year, but there have been no status updates as to when, exactly, the machine will be producing product.

In September 2015, Kruger Packaging announced an investment of $250 million to convert the No. 10 newsprint machine (PM10) at the company’s mill in Trois-Rivières, Quebec to produce 100% recycled lightweight linerboard. At the time of the announcement, Kruger said it would be about 20 months to complete the conversion and have the machine up and running, which by my math puts start-up in April or May of 2017. The reworked machine will have an annual capacity of 360,000 metric tonnes. The project will also be carried out with the financial support of the Government of Quebec.

Regardless of additional capacity projected for the future, containerboard producers in 2015 demonstrated admirable discipline in matching supply to customer demand, and that’s what it will take in the next few years to control making too much of a good thing.
How deinkers save three ways with one additive

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Glatfelter to Build New Advanced Airlaid Materials Facility in the U.S.

Glatfelter will invest approximately $80 million to build a new production facility in the United States for its Advanced Airlaid Materials business (AMBU). The company is currently evaluating location options, primarily in the southern United States.

“Our Advanced Airlaid Materials business is a global growth platform that has a unique opportunity to capitalize on increasing and unmet demand in North America for the materials used in lighter-weight hygiene and disposable wipes products,” said Dante Parrini, Chairman and CEO. “Our plan to build this new facility is in direct response to customer needs for increased capacity in a tightening North American airlaid market.”

The new facility is expected to have an annual capacity of approximately 22,000 short tons, increasing Glatfelter’s total global airlaid materials capacity to approximately 129,000 short tons.

“Our plan to build this new facility is in direct response to customer needs for increased capacity in a tightening North American airlaid market.”

– Dante Parrini, Chairman and CEO, Glatfelter.

In support of market growth, the investment is supported by customer commitment to purchase a significant amount of the annual capacity. In addition, the new facility will establish a specialty asset base in the United States and create a center of excellence for other lighter basis weight products, the company said in a press release.

Glatfelter anticipates production will start in approximately two years and the project will be funded by a combination of cash on hand and its existing credit facility.

Chris Astley, Senior Vice President & Business Unit President, Advanced Airlaid Materials, noted, “We are planning to locate this facility in close proximity to several key customers and highly efficient transportation routes in the southern U.S., as well as where we have additional access to a high-quality, skilled workforce.”

Glatfelter’s Advanced Airlaid Materials Business Unit has leading positions in the feminine hygiene, adult incontinence, wipes and home care markets globally, and its products are also used in food packaging and industrial applications. Its existing production facilities are located in Canada and Germany.

OX Industries Acquires Two Paper Tube Plants from American Paper Products

OX Industries has acquired two paper tube plants, one located in Totowa, New Jersey and the other in Framingham, Massachusetts. The plants were purchased from American Paper Products in Kulpsville, Pennsylvania.

Kevin Hayward, President of OX Industries, said, “American Paper Products has served its loyal customers since 1929 and is one of the oldest family owned paper tube companies in the United States. We are excited to expand our geographic reach and continue to serve America’s customers with excellent quality and offer additional products and services.”

According to OX, the acquisition continues the strategy of vertically aligning nationwide converting production with OX’s paper mills that manufacture high strength, 100% recycled tube and core paperboard.

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*Independent testing by SpencerLab Digital Color Laboratory, commissioned by HP. The full October 2009 report, “Print Quality Analyses – ColorLok Media Evaluation: AiO Printers: Brother MFC-5490CN, Canon PIXMA MX860 & MX7600, Epson WorkForce 600, HP Officejet 6500 and Officejet Pro 8500,” is available for download at spencerlab.com
Gordon Brothers Purchases Assets Formerly Owned by Lincoln Paper and Tissue

Gordon Brothers Group, a global advisory, restructuring and investment firm, in December purchased the assets of Lincoln Paper and Tissue as part of a joint venture that includes Capital Recovery Group, PPL Group and Rabin Worldwide. The Maine-based tissue and paper mill filed for bankruptcy in late September 2015.

“Our purchase of this mill provides a significant opportunity for a strategic operator to restart the mill. In the event an operator does not materialize, we will provide buyers with the chance to purchase some highly desirable, late model paper and tissue equipment,” stated Bob Maroney, President of the Commercial & Industrial Division of Gordon Brothers Group.

“We are investing capital to maintain a warm idle and would like nothing more than to have an operator restart the plant and create jobs,” said Bill Firestone President of CRG on Dec. 10.

Lincoln Paper and Tissue’s bankruptcy filing resulted from a series of challenges as the company sought to improve its business following a boiler explosion in 2013 and the subsequent loss of a major customer. The company faced headwinds due to trends towards foreign manufacturing of similar products and earlier this fall made the strategic decision to file for bankruptcy.

Graphic Packaging CEO David Scheible to Retire, Michael Doss Named Successor

Graphic Packaging International, Inc. announced the retirement of David W. Scheible as Chief Executive Officer on December 31, 2015.

Mr. Scheible had served as a Director, President and CEO of Graphic Packaging since January 1, 2007. In May of 2013, he was appointed Chairman of the Board of Graphic Packaging Holding Company. Mr. Scheible was also named as PaperAge’s “Executive Papermaker of the Year” in March of 2015.

Michael P. Doss, who has served as President and Chief Operating Officer since October 1, 2015, and held the position of COO from January 1, 2014 until September 30, 2015, succeeds Mr. Scheible as President and Chief Executive Officer.

Since joining Graphic Packaging International Corporation in 1990, Mr. Doss has served in a variety of positions, including Executive Vice President, Commercial Operations of Graphic Packaging Holding Company and Senior Vice President, Consumer Packaging Division. Prior to the Altivity transaction, he was Senior Vice President, Consumer Products Packaging of Graphic Packaging Corporation and Vice President of Operations, Universal Packaging Division.

Mr. Doss was also Director of Web Systems for the Universal Packaging Division as well as Plant Manager at the Gordonsville, Tennessee and Wausau, Wisconsin plants.

Verso Stevens Point Mill Earns 2015 Green Masters Award

Verso Corporation announced that its mill in Stevens Point, Wisconsin, has earned a 2015 Green Masters Award for the second year in a row. Verso is among an exclusive group of leading companies in Wisconsin that was recognized by the Wisconsin Sustainable Business Council for significant and ongoing sustainability practices.

“Sustainability is one of Verso’s founding principles and is integral to the decisions we make across our business every day,” said Becky Burris, Verso Vice President of Environmental, Health, Safety and Sustainability. “As we seek to reduce our environmental footprint, we challenge ourselves and our suppliers to find new and better ways to use resources more efficiently and further reduce air emissions, water discharges and waste. We are very proud to be recognized by the Green Masters Program for our sustainability initiatives at the Stevens Point Mill.”

The Stevens Point Mill was judged in a competitive process on a comprehensive range of key sustainability areas, including energy, water, waste management, emissions and transportation, as well as educational and community outreach. The mill produces specialty papers for food, beverage and consumer goods applications.
MEXICO

**Graphic Packaging Completes Acquisition of G-Box**

Graphic Packaging International Holdings Mexico recently completed the acquisition of G-Box, S.A. de C.V., one of Mexico’s leading folding carton producers.

“The acquisition of G-Box, with folding carton converting plants in Monterrey and Tijuana, Mexico, strengthens our geographic footprint in the growing Mexican food and beverage marketplace,” said Michael Doss, Graphic Packaging’s President and CEO. “These assets also broaden our customer base and allow us to offer our current customers a wider range of products.”

SOUTH AMERICA

**Smurfit Kappa Acquires Containerboard Mills, Corrugating Facilities, in Brazil**

Smurfit Kappa on Dec. 31, 2015 acquired two integrated paper-based packaging businesses, Industria de Embalagens Santana and Paema Embalagens, based in Brazil, for a total consideration of approximately EUR 186 million (R$805 million).

Both INPA and Paema are privately-owned, and the combined operations have three recycled containerboard mills with a total capacity of 210,000 tonnes and four corrugated facilities servicing the Northeast of Brazil, through the Rio and Sao Paulo regions and the South of the country.

The size and location of the combined operations will build on the Group’s leadership position as the largest pan-regional corrugated packaging supplier in Latin America. SKG will also enhance the two businesses through the application of the Group’s best-in-class operating systems and design and innovation capability. Furthermore, the Group’s enlarged global footprint will improve its packaging offering to multinationals operating throughout The Americas region.

The combined business employs over 1,700 people and the Group currently expects to generate synergies of approximately EUR 6 million (R$28 million) to be delivered by the end of 2017, primarily through operational improvements and supply chain optimization as the businesses are integrated.

EUROPE

**Sappi Europe to Build EUR 12.6 Million Paper Storage Facility in Germany**

Sappi Europe will build a new, multi-purpose paper storage logistics facility close to Wesel, Germany.

According to Sappi, the rail-linked facility will hold more stock keeping units for German and Benelux customers in particular. The logistics services linked to this additional warehouse space will also be made available to other customers thanks to the operational support provided by long-standing partners.

The facility will be fully operation by the end of 2016.

Sappi has implemented a full train concept with a dedicated train between its Gratkorn Mill and the Wesel hub. Six trains per week carry paper and pulp between the sites.

Hans-Juergen Peichler, Manager Logistics, Sappi Logistics Wesel GmbH, has been closely involved in the initiative. “We have put a lot of emphasis on analyzing both outbound and inbound logistics, working with our procurement and logistics teams to find synergies and to better utilize existing networks. The logistics services that we offer have been fine-tuned and are as multi-modal as possible. The Wesel facility supports this drive.”

**BillerudKorsnäs Secures 10 Percent Stake in EcoXpac**

BillerudKorsnäs in January purchased a 10 percent stake in the Danish packaging innovation company EcoXpac. EcoXpac is based in Denmark and specializes in advanced 3D-forming of fiber-based structures. The company was founded in 2005.

BillerudKorsnäs said the investment strengthens its competence in formable packaging and forms the foundation for collaboration.

“BillerudKorsnäs has in addition to a solid foundation in innovation, including the continuous development of our existing materials and solutions, also an ambition to take on a number of larger, more fundamental and long-term challenges in the packaging sector. This is done in order to find solutions and develop entirely new packaging concepts that can challenge plastic, glass and aluminium. One such concept is to produce a bottle completely made of paper. Through collaboration and by combining the knowledge and experience of BillerudKorsnäs and EcoXpac the aim is to achieve this,” the company said in a press release.
ASIA

Vinda to Acquire SCA’s Hygiene Business in SE Asia, Taiwan and South Korea

In mid-January, Vinda’s shareholders approved the acquisition of SCA’s business in South East Asia, Taiwan and South Korea. The deal is expected to close on February 1, 2016.

SCA is the majority shareholder in Vinda, one of China’s largest hygiene companies.

The purchase consideration amounts to HKD 2.8 billion (approx. SEK 3.1 billion) on a debt-free basis.

As part of the deal, SCA and Vinda have signed an agreement regarding the exclusive license to market and sell the SCA brands; TENA (incontinence products), Tork (Away-from-Home tissue), Tempo (consumer tissue), Libero (baby diapers), and Libresse (feminine care) in South East Asia, Taiwan and South Korea. With this agreement, Vinda will hold the rights to these product brands in these Asian markets. Vinda will also acquire SCA brands Drypers, Dr.P, Sealer, Prokids, EQ Dry and Control Plus in these markets.

SCA said that it will continue to provide innovation and technical support for the business.

SCA’s hygiene business in South East Asia, Taiwan and South Korea had net sales of approximately SEK 2.2 billion in 2014. The business has approximately 1,600 employees and three personal care production sites in Malaysia and Taiwan.

As a result of the transaction, SCA’s Shanghai office will cease operations.

AUSTRALIA

Graphic Packaging Proposes to Acquire Australian Folding Carton Producer Colorpak

Graphic Packaging International on Jan. 11 agreed to offer to purchase 100% of the outstanding shares of Colorpak, a leading folding carton supplier in Australia and New Zealand.

“We are very pleased to announce the agreement to acquire Colorpak,” said Michael Doss, Graphic Packaging's President and CEO. “Similar to our strategy in the U.S. and Europe, we are committed to growing our business in developed food and beverage end markets and optimizing our global supply chain.

“While Graphic Packaging currently has a well-established presence in Australia, the acquisition of Colorpak and its three world class folding carton manufacturing facilities allows us to expand our proven integrated supply chain in the Australia and New Zealand food, beverage and consumer product markets.”

Colorpak operates three folding carton facilities that convert approximately 38,000 tons of paperboard annually into folding cartons for the food, beverage and consumer product markets. The folding carton facilities are located in Melbourne, Australia, Sydney, Australia and Auckland, New Zealand.

The acquisition is subject to Colorpak shareholder approval, court and regulatory review, and standard closing requirements. Subject to those conditions, the transaction is expected to close in the second quarter of 2016.
Valmet has received a major order to deliver cooking, fiber line and evaporation plant to SCA’s Ostrand pulp mill located in Timra, Sweden. This delivery is part of SCA’s investment to upgrade the production of bleached softwood kraft pulp at the Ostrand mill from its current capacity of 430,000 tons to 900,000 tons per year.

The value of the deal was not disclosed.

A large part of the order will be delivered from Valmet’s Swedish units — the cooking plant from Karlstad, fiber line from Sundsvall, and evaporation plant from Gothenburg.

Valmet’s delivery includes a Compact Cooking G2 together with a TwinRoll press-based fiber line for both ECF and TCF pulp production at a capacity of 2,850 air dry tons per day. The evaporation plant consist of 7 effects with a TUBEL superconcentrator for high dry solids and has a capacity of 1,150 tons of evaporated water per hour.

The total package is optimized for exceptional water and energy efficiency, Valmet said.

The final start-up of the renewed pulp mill is scheduled for May 2018.

Kemira Continues Investment in Growing Market for Bleaching Chemicals

In 2014, Kemira announced a substantial capital investment in its Oulu plant to capture the growth potential in the tight bleaching chemical market. The new hydrogen peroxide production process was successfully started during the third quarter in 2015 and the new volume has been sold out.

Positive development in the fiber markets and the ongoing pulp mill capacity investments drive Kemira’s investments in bleaching chemical capacity. Kemira has started a pre-engineering study for additional capacity in the Nordics in order to invest in new production lines in Finland and debottleneck the existing units.

Kemira has several bleaching chemical production units in Europe; Äetsä, Joutseno and Oulu in Finland, Helsingborg in Sweden and Europoort in Netherlands.

AkzoNobel Acquires Full Control of Hydrogen Peroxide JV

AkzoNobel announced that it has strengthened its position in the North American hydrogen peroxide market after acquiring the outstanding shares in EkO Peroxide LLC from joint venture partner OCI Peroxogenes LLC (a subsidiary of OCI Enterprises Inc.).

Established nine years ago and headquartered at AkzoNobel’s site in Columbus, Mississippi, the joint venture owned and controlled the 70,000 short tons per annum (nameplate capacity) hydrogen peroxide manufacturing facility.

Hydrogen peroxide is a key component of AkzoNobel’s bleaching chemicals product portfolio and is marketed by the company’s Pulp and Performance Chemicals business. It has essential applications in various markets, notably pulp bleaching, chemical processing and mining.

Buckman Asia Receives Singapore Sustainability Award

Buckman Asia was recognized for its commitment to sustainable business practices at the Singapore Sustainability Awards (SSA). Buckman was one of 10 organizations to receive the annual award from the Singapore Business Federation (SBF), and received its award in the Sustainable Business Awards category.

“We are very honored to be recognized by the Singapore Sustainability Awards. Sustainability is something Buckman takes very seriously, and we are constantly searching for ways to improve in this area,” said Buckman Asia’s managing director, Leigh Mann. “We are seeing success because we are always focused on our goal to achieve zero accidents and zero negative environmental impact.”
**Appleton Coated** announced the following new appointments: **John Mazuroski** has been promoted to the new role of executive director, uncoated and specialty products; **Jim Bird** joins the company as product manager – uncoated and specialty products; **Amy Ambos** is promoted to the new position of product manager – inkjet products; and **Jenni Birkholz** has been appointed senior marketing specialist – publication papers and sustainability.

**Cascades** has named **Charles Malo** as President and Chief Operating Officer of the Norampac Group, which is the containerboard unit of Cascades. Malo succeeds **Marc-André Dépin**, who on Jan. 13, announced his decision to step down as President and Chief Executive Officer of Norampac. Malo joined Norampac in 1997 and has served as COO since April 2015.

**Heinzel Group** has appointed **Kurt Maier** as new Chief Executive Officer of Heinzel Holding GmbH, effective March 31. Maier is currently CEO of Zellstoff Pöls AG (Austria), a subsidiary of Heinzel Group. Maier succeeds **Alfred Heinzel**, who will withdraw from the operational business and join the Supervisory Board.

**Packaging Corp. of America** announced that **Mark W. Kowlzan** became Chairman and CEO of the company on Dec. 31, 2015. Kowlzan has served as CEO since July 2010. In a related move, **Paul T. Stecko** stepped down as non-executive chairman, but will continue to serve on the Board of Directors. Stecko has served as Chairman of the Board since 1999.

**Rolland** announced that **Renée Yardley** has joined the company as Vice-President Commercial Sales Canada and North American Marketing. Yardley was previously Vice President Sales and Marketing for paper at Tembec. In addition, **Normand Champagne**, Vice-President Sales & Marketing, will lead the Security Paper business.

**Sappi Europe** recently announced that **Thomas Rajcsanyi** has been appointed as the new Managing Director of the company’s Alfeld pulp and paper mill in Germany. He replaces **Stefan Karrer**, who has left for personal reasons.

**UPM** has appointed **Bernd Eikens** as Executive Vice President responsible for the UPM Paper Asia business area, effective February 1. Eikens has been with UPM since 1998 and is currently responsible for UPM Paper in Europe and North America.

**INDUSTRY SUPPLIER**

**Valmet** appointed **Juha Lappalainen** as Senior Vice President, Strategy and Operational Development. Lappalainen succeeds **Kari Saarinen**, who was appointed Valmet’s CFO in November of 2015.

**Xerium** announced that **John Schauer** has joined the company as Product Manager – Nonwovens Market. Schauer comes to Xerium with 30 years of management and technical leadership experience.

**RECOGNITION**

**Don Forst**, Director-Global Sourcing, International Paper, is the recipient of the **Association of Suppliers for the Paper Industry’s** 2016 Excellence in Leadership Award, which recognizes outstanding leaders within the paper industry. The award honors unique and creative leadership of employees, company and key suppliers through major projects or ongoing relationships.

**INDUSTRY ASSOCIATIONS**

**CEPI** in January announced that its Director General, **Marco Mensink**, will leave his role on March 15 to take up the role of Director General in CEFIC (chemical industry trade federation). CEPI is in the process of finding a replacement.
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The Paper2016 Convention Daily will be published in three separate editions (March 6, March 7, March 8) and distributed to all attendees of the convention. The Paper2016 Convention Daily is published by O'Brien Publications, Inc.
Global demand for fluff pulp was 5.4 million air dried tonnes in 2015, up from 4.7 million air dried tonnes in 2010. Projected demand in 2020 is 6.5 million air dried tonnes for a projected annual growth of 3.6% by 2020, according to a new report from Smithers Pira, *The Future of Fluff Pulp to 2020*.

Historically, fluff pulp has been a specialty pulp grade with higher prices and margins than the more common papermaking pulp grades. Accounting for about 10% of the total pulp market globally in 2015, fluff pulp has apparently ended decades of regular price fluctuation with only minor variations over the last five years.

“Fluff pulp is a very desirable pulp product, with production costs lower than for dissolving pulp, and prices higher than for papermaking grades,” said Phillip Mango, author of the report.

“The outlook for fluff pulp pricing is that it will not vary as much as it has in the past and list price will stay high while actual discounted prices slowly drop from 2015 through 2020. This will make fluff pulp even more attractive versus other fibers.”

Fluff pulp is one of the most sustainable raw materials on earth, based on tree species grown with no irrigation and few or no pesticides on land that has little value for food production. Despite continuing reduction in fluff pulp content in its major end uses, fluff pulp has proven amazingly resilient, gaining volume in adult incontinence and increasing baby diaper/nappy sales in emerging markets.

The large hygiene end-uses consume the majority of global fluff pulp and drive the growth of the fluff pulp market. The fastest growing major end-use for fluff pulp is nonwovens. These hygiene end-uses are projected to increase fluff consumption in air dried tonnes by 3.4% annually through 2020, while nonwovens are projected to increase their fluff pulp consumption by 5.4%.

The competitive landscape for fluff pulp is dominated by large pulp and paper companies located in North America, thanks to the optimal growing conditions in this region.

The four largest fluff pulp producers are Georgia-Pacific, Weyerhaeuser, International Paper, and Domtar. These four account for about 80% of all fluff pulp production in 2015. The 10 largest producers account for about 99% of global fluff pulp production. Of the top 10 producers, six are in North America, one in South America and three in Western Europe.

The trend in fluff pulp production is expansion in South America and North America, while Europe has concentrated on modifying pure fluff producing mills to more sustainable, more profitable, biorefineries.

Geographically, consumption is driven by the large hygiene end-uses plus the growing nonwovens markets. Here, Asia is the market leader, with Western Europe and North America second and third respectively. The North American and Western European markets are relatively mature and as such have the lowest growth for fluff pulp, while Asia, South America and Eastern Europe all have higher growth rates.

With comprehensive market data and industry analysis based on new primary research, *The Future of Fluff Pulp to 2020* examines the changing nature of the global fluff pulp market over the next five years. For further information about the report, please visit Smithers Pira website: www.smitherspira.com.
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As we enter the Obama Administration’s final stretch and face a congressional agenda already impacted by the presidential election, AF&PA is working on its members’ behalf to advance a sustainable U.S. paper and wood products manufacturing industry though fact-based public policy and marketplace advocacy.

**STRINGENT ENVIRONMENTAL POLICIES**

Last year was among the busiest we’ve seen on the environmental policy front. One of the most significant events that will reverberate into 2016 was the administration’s final Clean Power Plan (CPP) in August to regulate greenhouse gases from utilities. AF&PA made progress in our campaign to ensure the carbon neutrality of biomass for the energy we produce, but our work is not done. In 2016, we will work with states to achieve the least costly method for implementation and seek inclusion of our biomass carbon neutrality principles in state plans.

The U.S. Environmental Protection Agency (EPA) also finalized new ozone National Ambient Air Quality Standards at 70 parts per billion (ppb) down from 75 ppb; while we advocated that lowering the standard was wholly unnecessary, others pressed for an even more stringent — and 10 times more costly — 68 ppb. Our advocacy secured gains for our members, and with continued in support of flexible implementation policies, we hope its effects on our operations will be small.

“**Our industry has met many costly regulatory challenges over the years, spending billions of dollars as part of its environmental stewardship. However, the cumulative regulatory burden on American manufacturing is unsustainable.”**

– Donna Harman, President & CEO, AF&PA

EPA also has sought excessively stringent state-level human health water quality criteria in Washington, Maine and Idaho, and we’ve upped our advocacy in return. So to say that the administration’s engagement on issues affecting our industry is not slowing down as we enter the final year is an understatement.
Of course, we recognize that sensible regulations provide many important benefits, including protecting the environment, public health and worker safety. Our industry has met many costly regulatory challenges over the years, spending billions of dollars as part of its environmental stewardship. However, the cumulative regulatory burden on American manufacturing is unsustainable. For our industry alone, more than $10 billion in new capital expenditures is expected over the next decade for regulatory compliance. Along with the cost, complexity and sheer number of regulations, the uncertainty in the federal regulatory process creates major challenges for investment, capital planning and job creation. Two bills currently before Congress — H.R. 3438, the “Require Evaluation before Implementing Executive Wishlists Act of 2015,” and H.R. 2631, the “Regulatory Predictability for Business Growth Act of 2015” — would help to increase regulatory transparency, harmonize regulatory requirements, avoid wasting limited resources and increase regulatory certainty. AF&PA will be engaged on these initiatives to ensure that regulatory reform is a priority for the next administration.

INTERNATIONAL TRADE

In addition to environmental policy and general regulatory reform, AF&PA also will focus heavily on two other areas this year: international trade (specifically, the Trans-Pacific Partnership free trade agreement, or TPP) and government policies on paper use ranging from procurement guidelines to whether individuals can access government information in paper format.

Exports account for more than 15 percent of our industry’s annual total sales, making free and fair trade critical to our success. Negotiators came to agreement in 2015 on TPP provisions, which include the speedy elimination of tariffs on paper, packaging and wood products and strong provisions committing TPP countries to fight illegal logging and associated trade. This agreement will provide access to new markets in Vietnam and Malaysia and help our industry compete in the fast-growing Asia-Pacific region.

PAPER OPTIONS

AF&PA also will continue its (so far) successful advocacy in the government’s latest rush to digitize with the Securities and Exchange Commission (SEC) Proposed Rule 30e-3. If adopted, the rule would create an opt-in system for paper forms where investors must request their financial institutions send information by mail. Investors would receive a one-time notice that financial reports about their holdings will be shifted to electronic delivery unless they take action. Such a move would cause confusion for investors and abandon those who lack access to — or choose to not use — the Internet for financial transactions. In December, a bipartisan congressional letter led by Reps. Bruce Poliquin (R-Maine) and Kyrsten Sinema (D-Ariz.) went to the SEC requesting the rule be rescinded; AF&PA supports the representatives’ action and will continue to engage on the issue to ensure all Americans have secure access to their financial information.

In addition to our known objectives, we expect this administration will (as all do) push a potential slew of midnight regulations. AF&PA will remain vigilant, staying in close contact with Capitol Hill and regulatory agencies to ensure nothing gets by.

SUSTAINABILITY

Finally, at the core of everything we do is a focus on sustainability. This July, we will release our next Better Practices, Better Planet 2020 Sustainability Report, marking the progress we’ve made toward goals developed by AF&PA member companies in 2011. In what will be our third report to-date, we expect to continue the positive trend on reducing greenhouse gas emissions and water use; increasing energy efficiency, paper recovery for recycling and sustainable forest certification; and improving workplace safety. In addition to our collective gains, 14 AF&PA member companies have been selected since 2011 to receive awards for exemplary leadership and innovation in the field. The industry’s overwhelming commitment to sustainability helps us to advocate for better — not more — regulations as we interface with government agencies and legislators. I look forward to sharing the results with you soon.
2015 was a decent year for container-board mills, but what began on a very positive note ended with some doubt about the outlook for 2016. Markets entered 2015 on a roll following a strong showing in the manufacturing sector in late-2014 helped by improved consumer spending buoyed by the steep decline in energy costs, which freed up cash for consumers to spend. The downturn in energy prices, of course, has negative impacts on some sectors of the economy, but the good news is that these sectors typically are not major consumers of corrugated boxes.

However, despite this good sendoff, the economy did not continue to post good growth in all sectors last year and thus box growth while positive was relatively weak. Owing to an extremely cold first quarter, industrial production started poorly, falling in both the first and second quarter 2015, down 0.3% and 2.3%, respectively, on an annual basis. In the third quarter industrial production rebounded by rising 2.9%. Industrial production for food and tobacco products, which are the key sector for boxes, performed better, growing 1.3% and 4.9% in the second and third quarters of 2015, following zero growth in the first quarter.

Demand has been sluggish in recent years, growing only nominally in 2013 followed by a gain of just under...
1% in 2014. While this isn’t very exciting, it’s better growth than for many grades of paper and board. Unlike many other segments of the industry such as printing and writing grades, the packaging industry is supported by relatively stable demand for its key product: corrugated boxes. Similarly, slow growth occurred in 2015 as shipments are estimated to have grown about 1% or a little under. This was disappointing given that in early 2015 some analysts projected box demand to grow in the 1.5% to 2% range.

With domestic demand sluggish, Kraft liner exports continued to be the safety valve allowing producers to maintain production levels. Export liner prices have been under pressure over the last couple of years owing to the roughly 20% appreciation of the dollar. The euro fell from about 1.4 Euro/dollar in early 2014 to 1.1 Euro/dollar by early 2015. However, over the last 12 months the Euro has remained in about the same range. Liner exports are quite diversified by region which has helped sustain shipments and prices. Markets and approximate share include: Europe (21%); Mexico/South/Central America (44%); Africa/Middle East (12%); Far East (8%); China (8%).

In contrast, Canadian mills have seen the Canadian dollar continue to fall from about 90 cents to a low of 70 cents in early 2016. This has provided Canadian mills with added incentive to ship products to the U.S., and as a result, imports of containerboard from Canada have risen. While the strong dollar has made Kraft liner more expensive in other markets and reduced returns on overseas sales so far, it has not led to a decline in exports. Part of the reason for this is that virgin linerboard is a premium product and the U.S. is well positioned with low cost mills even though the change in currency and slippage in export prices in some areas has taken away a good part of this advantage on a cost basis.

**CAPACITY GROWTH**

Capacity growth has also been a concern in trying to forecast the market for 2016 as U.S. containerboard capacity is projected to grow 1.9% in 2015 following a 1.4% increase in 2014. However, most of this increase is for recycled grades and corrugating medium. In stark contrast, Kraft liner capacity was flat in 2015 while recycled liner capacity rose 4.1% two years in a row. Recycled medium posted an even larger 8.8% gain in 2015 while semi-chem fell slightly. Thus, Kraft supply remains tight while recycled grades are more available — one result has been lower prices on recycled grades. Containerboard capacity is rising a bit in Europe and its possible this could slow Kraft exports, but at this point it’s assumed this impact will be minimal.

**SHIPMENTS/PRODUCTION**

Based on data through October, it’s clear that the overall market continues to be balanced but sluggish. October inventories fell about 3.5% from September to 2.57 million tons. Box shipments posted mixed results in October, falling 2.8% on an actual basis but rising 1.6% on an average week basis. Shipments were 32.4 billion sq. ft., bringing total shipments year to date to 308.6 bsf or an increase of 0.8%. Operating rates were about 94%, but down a bit from rates seen in the prior 2-3 months.

U.S. containerboard production over the January to October 2015 period is up 1.8% over the prior year level. As noted, a key factor sustaining production and operating rates is continued solid export shipments. U.S containerboard exports in October 2015 were off 1.9% from 2014, but year to date exports are running 2% ahead of 2014.

**BALANCED MARKET**

The bottom line is that packaging markets were in overall balance last year and there is a good chance that this could continue to be the case for 2016 despite tepid box growth, uncertainty on the global market, and downward pressure on export prices.

The continued consolidation of the business — the latest being the huge combination of RockTenn and MeadWestvaco to form WestRock — should only help the industry to manage inventories and control shipments. In fact, WestRock announced plans in October to idle two machines and it’s reported they may cut output further. The willingness and ability of producers to manage supply means that most forecasts assume U.S. Kraft liner prices will remain stable in 2016.

Of course there is downside risk if export prices continue to falter and uncertainty on the strength of the global economy, including China, could undermine demand, and finally result in weaker exports. The growth in recycled capacity also poses some risk that this could undercut Kraft liner prices since recycled prices have fallen and the gap has increased.

Harold Cody is a contributing writer for PaperAge. He can be reached at HaroldCody@paperage.com.
REINCARNATION OF A PAPER MILL

Grade conversion gives third life to a papermaking line at the Stracel mill in Strasbourg, France.

By Pauliina Purola, Marketing Manager, Valmet

It is a well-known fact that the paper industry and paper markets are evolving rapidly as the digital world changes everything around us. At the turn of the millennium, the papermaking line at the Stracel mill in Strasbourg, France was facing its first revival, as the machine changed from being a newsprint machine to an LWC machine. The demands of the market simply required it.

Another change of direction took place at the beginning of 2013, when the Stracel mill ceased production of coated magazine paper. However, the mill did not have to wait very long to be reborn, as the French joint venture Blue Paper SAS restarted the machine in December 2013. The short down time of only one year was possible, because the joint venture partners had started to plan, engineer and prepare the conversion already two years earlier. In its third life the Blue Paper line produces liner and fluting from recycled waste paper.

Blue Paper is a joint venture between Klingele Papierwerke and VPK Packaging Group, both privately-owned companies with a strong experience in paper manufacturing. Klingele and VPK have been partners in the European packaging alliance ‘Blue Box Partners’ for many years.
Together they have a yearly consumption of more than one million tonnes of paper for corrugated board. This captive market made it possible to realize this ambitious project. It was certainly a positive investment for the future.

**PAPER MACHINE ASSESSMENT**

When a papermaking line is rebuilt into a boardmaking line, the rebuild task is very seldom a simple and straightforward project. Every single section of the papermaking line needed to be evaluated for its suitability for boardmaking. In the case of Blue Paper, almost no section of the machine remained untouched.

Valmet assessed the entire papermaking line in cooperation with Blue Paper. This particular papermaking line was already familiar to Valmet, since both the installation of the original machine and the grade conversion 13 years earlier had been performed by Valmet. As a result of the assessment, a number of improvements and changes were planned to reach the goal. Some prototype designs were even included to reach the desired results.

**PILOT TESTS BEFORE THE BIG DECISION**

In a rebuild this big, customers always want to be on the safe side as far as risks are concerned. Because the designed forming section was first of its kind, the prototype was tested at the Paper Technology Center in Jyväskylä, Finland. With the promising results of the pilot tests, Blue Paper was willing to risk the rebuild with Valmet.

Valmet Technology Centers provide a comprehensive range of testing and piloting services to manufacturers of board and paper worldwide. The pilot plants have the entire process covered, from stock preparation to winding and everything in between, providing customers with excellent service and reliable results to support them in their investment decisions.

**MAJOR CHANGES FOR HEADBOX AND FORMING SECTION**

The headbox was rebuilt with a new dilution profiling system to enhance profile and quality, and a turbulence generator for better formation. Because optimal process profiles and end product quality require that the headbox is in good mechanical condition, the entire headbox was overhauled.

The dewatering capability of the forming section was not sufficient for the requirements of the new grade. A number of issues had to be considered before the design was completed. Since the paper machine was designed 25 years ago, assessing the condition of the machine was a necessity. As the original design was intended for high speeds, the assessment proved that the basic structures, frames and overall condition of the entire forming section were in good shape.

Wrap angle optimization for the forming roll was also a key issue in order to increase dewatering at the beginning of the forming section. A large wrap angle guarantees a high dewatering capacity at high production speeds, even with less easily filtered stock. In order to achieve a wrap angle large enough for packaging papers, major parts of the forming section had to be modified or replaced. The addition of new suction boxes and a multifoil shoe also helped to increase dewatering.

The basis weight variations are today very low in the rebuilt forming section — the paper formation and basis weight profile in the cross direction are exceptional. All significant paper quality properties can be easily managed. Together with the headbox, forming enables good board machine runnability at high production speeds.

The press section also needed to be rebuilt to achieve a higher nip load. A new shoe was installed for the SymBelt roll of the second press in order to reach this target.
NO MACHINE SECTION REMAINED UNTOUCHED

The use of recycled fibers brings new challenges to the converted boardmaking line compared to LWC. Stickies and other unwanted substances can easily cause harm to the boardmaking process. Traversing high-pressure water cleaners were installed to clean the fabric during machine operation.

The sizer was converted from a coating sizer into a starch-applying sizer. The transformation required higher nip loads, which meant new sizer frames and nip rolls were needed, but the existing applicator beams were in such good shape that it was possible to reuse them.

The old multinip calender was removed and replaced with drying cylinders. Moisture profiling equipment was added to further improve the profiles and the reel was equipped with a WaterJet turn-up device to increase turn-up efficiency.

SAFE WORKING

Safety at work has become ever more important in the papermaking industry. In the case of a new machine, safety is easily taken into account, but rebuilds are a bit different. When existing and new equipment are combined, it may be more difficult to get an overall picture of safety aspects. In other words: In a rebuild, safety is to be enhanced, not weakened.

As a part of the project, Valmet performed a safety audit for the recycled fiber (OCC) and the whole paper machine line, from short circulation to pope, to support the customer in improving safety level. The target of the study was to identify safety risks and to propose actions to improve safety without decreasing the level of operations. The audit report gave directions on how to remove the safety hazards identified.

EXPERIENCE COUNTS

Grade conversion projects and installations are not simple tasks. Rebuild projects, in general, are quite challenging because the tolerances are small and quite often you have to improvise a solution simply because the drawings did not match the reality. In grade conversion projects, the changes are not made around just one item in the machine; almost every section requires some modifications. The changes in the layout drawing may seem to be quite simple, but the reality often couldn’t be further from “simple.”

In grade conversion projects, the changes are not made around just one item; almost every section requires some modifications.
Valmet is one of the companies who can cope with these types of projects. Planning the project is a highly sophisticated process. Every step, from the initial designs to installation and start-up and beyond, is always scheduled. But even with a detailed plan, there will be surprises that need to be taken care of at the site. Whenever an old machine is rebuilt into something new, something totally unexpected will almost certainly happen, and experience in this type of project is a must.

**LOWER SPEEDS, HIGHER CAPACITY**

In the near future, a number of European papermaking lines will be facing the same need to make a grade conversion. Hopefully, they will be able to achieve the same results as the high-flying Blue Paper line. With a trimmed width of 8.5 metres, this paper machine in Strasbourg previously produced LWC paper at a speed of 1,600 m/min. After start-up, the paper machine began producing fluting paper and testliner ranging from 70 to 130 g/m² at a speed of some 1,200 m/min.

At this point, the paper machine has reached everyone’s expectations. As it is typically for a rebuild, the start-up was more difficult than the start-up of a new greenfield mill. It took some time until the new and the old parts worked together well and everything was optimized to produce top quality paper. At a 72-hour guarantee test run, the machine reached the targeted production in less than 68 hours.

**Editor’s note:** Today, the converted paper machine at the Strasbourg mill has an annual production capacity of more than 300,000 tons of lightweight corrugated paper and testliner made from 100% recycled furnish. The majority of the mill’s production is delivered to corrugated sheet and box plants throughout Europe. Blue Paper’s corrugated board is available in three different grades: Blue Liner, Blue Flute and Blue One.

This article originally appeared in Valmet’s “Forward” magazine. For further information about this paper machine conversion project, please contact: Rauno Hänninen, Senior Project Manager, Valmet rauno.hanninen@valmet.com.
Because energy drives the papermaking process, steam is found in many energy streams in a paper mill. Steam is used to cook fibers for improved sheet strength, heat stock for improved drainage, heat process air for ventilation, heat dryers to dry paper, and selectively heat the web for improved gloss and smoothness.

Steam is a highly usable and regularly used additive throughout the paper mill. And when it comes to the dryer section, it is the primary input used to evaporate moisture from the sheet allowing for desirable and profitable sheet characteristics to be created.

Although condensing steam to dry paper is an inherently efficient process, the drying process can be inefficient.

Fortunately, new technologies and control strategies give even greater ability to manage steam to ensure optimal energy use resulting in improved drying efficiency and machine runnability. The following “tips” from Kadant Johnson answer some of the more frequently asked questions when it comes to energy efficiency in a paper machine’s dryer section.

**WHAT COMMON METRICS ARE USED FOR MEASURING PAPER DRYING EFFICIENCY?**

Two common metrics for measuring paper drying efficiency are drying load (amount of water evaporated per hour) and steam consumption (amount of steam used per hour). The Technical Association of the Pulp and Paper Industry (TAPPI)
recommends these metrics be indexed by the dryer surface area (resulting in pounds of water evaporated per hour per square feet of dryer surface area) and by the amount of water evaporated (resulting in pounds of steam per hour per pound of water evaporated). The indexed values are better indicators of dryer performance and overall energy efficiency of the drying process. Indexed values can be compared to similar machines as a benchmark of performance.

**WHAT IS THE ROLE OF MONITORING IN OPTIMIZING A DRYER SECTION?**

Optimizing a dryer section begins with monitoring the dryer section operation and developing a baseline for dryer section performance. The baseline can be compared to the performance of similar machines producing similar grades. This baseline can also be used to evaluate the impact of changes made on the machine. Improvements, however, require an active program that follows and acts on the data. Daily production meetings should include a review of energy efficiency readings. This will help to identify losses as they occur.

For example, an increase in steam going to a condenser may indicate the differential steam pressures are too high. A vent valve opening up may indicate a thermocompressor is running in a choked flow condition. An increase in the dryer steam flow (per ton of product) may indicate the exiting press moisture is increasing and it is time to change one of the press felts. An increase in steam pressure to the air heaters may indicate coils are fouled and need to be cleaned. Again, the first step is monitoring. The next steps involve acting on the results.

**WHERE DO YOU START IN OPTIMIZING A DRYER SECTION?**

The dryer section consumes large amounts of energy and it can have a dramatic impact on both sheet quality and profitability. The drying process, like other papermaking unit operations, is a complex matrix of interacting systems: Pocket ventilation, steam system, drive system, tail threading, sheet handling, energy recovery, and fabric conditioning, guiding, and tensioning.

A good way to start an evaluation of the dryer section is to contact a drying systems supplier, consultant, or engineering firm for a dryer audit. A professional dryer audit should include a complete set of dryer section measurements, an analysis of equipment sizing, recommendations for operational improvements, recommendations for equipment upgrades, lists of short-term and long-term improvement projects, and an analysis of the expected return for each project.

Typical returns come from energy savings, increased drying capacity, reliable dryer drainage, reliable dryer drainage equipment, improved dryer section runnability, and enhanced drying uniformity. A comprehensive report identifies improvement opportunities and quantifies the associated benefits.

**WHAT IS THE CORRECT OPERATING DIFFERENTIAL PRESSURE FOR A DRYER SECTION?**

The correct operating differential pressure for maintaining dryer drainage depends on a number of parameters. Some of the more important variables are: dryer section steam pressure, steam condensing rate, type of dryer syphon.
(rotating, stationary, or scoop), syphon pipe sizes, machine speed, and dryer diameter. When it comes to setting the operating differential pressure, unlike the Ron Popeil 4000 rotisserie, operators cannot just “set it and forget it”. The operating differential pressures must be adjusted to reflect changes in operating conditions that come with start-ups, shut-downs, grade changes, and sheet breaks. Operators can make these changes manually, or they can use a supervisory control system, to make the changes automatically.

**IS IT IMPORTANT THAT DIFFERENTIAL PRESSURE TRANSMITTERS BE CALIBRATED?**

Proper calibration of instrumentation is at the heart of any efficient dryer section operation. If a process parameter cannot be properly measured, it cannot be properly controlled. Differential pressure transmitters are particularly important. Dryer drainage depends on it. Dryers with rotary syphons will flood if the differential pressure is not high enough and they will pass excessive amounts of blow-through steam if the differential pressure is too high. Even with modern stationary syphons, accurate differential pressure measurement is very important. Only 3-4 psi differential pressure is needed to drain the dryers with a stationary syphon, but with a measurement error of only 2 psi, the blow-through flow will easily be either inadequate or excessive.

It does not end there, the differential pressure transmitters may be properly calibrated, but the pressure sensing lines may not be delivering the right pressure to the transmitter. Over half of the dryer sections surveyed by Kadant Johnson had sensing lines that were improperly designed, installed, and maintained.

**DOES THE GROUPING OF DRYERS AFFECT ENERGY EFFICIENCY?**

The grouping of dryer cylinders in separate steam groups does not directly increase or decrease the amount of energy required to dry the paper web. The grouping of dryers does, however, have a direct effect on the design and ultimately on the performance of the dryer steam system. In a thermocompressor steam system, for example, each thermocompressor must be sized to match the number of dryers in the section, their operating steam pressures, the differential steam pressures, and the resulting blow-through steam flow.

In a cascade steam system, the down-stream dryer groups must be sized to use the blow-through steam flows from the up-stream dryer groups. The last of the steam groups must also be properly sized so that its blow-through steam is either used in a low-pressure process or low enough in quantity to be discharged to a condenser. Without a proper grouping of dryers, the steam energy will be lost, either through vent valves to the atmosphere or to condensers.

**WHY ARE DRYER SURFACE TEMPERATURES MEASURED IN A DRYER STUDY?**

The surface temperature of a dryer is a good indicator of dryer performance. The temperature of the surface is compared to the temperature of supply steam (the “saturation” temperature that corresponds to the dryer steam pressure). The difference between the dryer surface temperature and the
What is the recommended frequency for dryer inspections?

There may not be pressure vessel code, local jurisdictional, or other regulatory requirements for periodic dryer inspection, but it is a good practice to formally inspect dryers every five years. To make this process more manageable, mills and their insurance carriers will often adopt a program in which 20% of the dryers are inspected each year so that all dryers are inspected on a five-year cycle. These inspections include magnetic particle testing of dryer heads, ultrasonic testing of head bolts, dryer shell thickness measurements, acoustic emissions examination, and external and internal visual inspections.

Internal visual inspections should identify grooves in the shell, erosion under syphon shoes, loose dryer bars, loose dryer balance weights, visible casting flaws, and erosion or damage to syphon piping. Eroded syphon shoes, eroded syphon elbows, and leaks past syphon flange gaskets can lead to poor condensate evacuation, increased operating differential pressures, and high blow-through steam flows. These in turn reduce the energy efficiency of the drying process.

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Made in America, Again

U.S. Now the Preferred Location for New Factory Capacity to Serve U.S. Market, Interest in Reshoring Stays Strong

Of manufacturers planning to add production capacity over the next five years for goods consumed in the U.S., more plan to add that capacity in the U.S. than in any other country — a sharp reversal since as recently as two years ago. And a rising percentage of U.S.-based executives at the manufacturers say they are already in the process of reshoring production work from China. These are among the findings of new research released in December 2015 by The Boston Consulting Group (BCG).

INCREASING U.S. PRODUCTION

Thirty-one percent of respondents to BCG’s fourth annual survey of senior U.S.-based manufacturing executives at companies with at least $1 billion in annual revenues said that their companies are most likely to add production capacity in the U.S. within five years for goods sold in the U.S., while 20% said they are most likely to add capacity in China. Asked the same question in 2013, 30% of respondents said that China was the most likely destination for new capacity devoted to serving the U.S. market, while only 26% said capacity would be added in the U.S.

Even though China will remain a major exporter to the U.S., which accounted for around 18% of its total exports through the first eleven months of 2015, the suggestion that the U.S. has surpassed China as the most likely destination for new manufacturing capacity is striking.

The share of executives saying that their companies are actively reshoring production increased by 9% since 2014 and by about 250% since 2012. This suggests that companies that were considering reshoring in the past three years are now taking action. By a two-to-one margin, executives said they believe that reshoring will help create U.S. jobs at their companies rather than lead to a net loss of jobs.

“These findings underscore how significantly U.S. attitudes toward manufacturing in America seem to have swung in just a few years,” said Harold L. Sirkin, a BCG senior partner and coauthor of the research, which is part of BCG’s ongoing series on the shifting economics of global manufacturing, launched in 2011. “The results offer the latest evidence that a revival of American manufacturing is underway.”

LOGISTICS, SUPPLY CHAIN PUSHING CHANGE

This year’s survey also confirmed that factors such as logistics, inventory costs, ease of doing business, and the risks of operating extended supply chains are weighing heavily in executives’ decisions to bring manufacturing back to the U.S. Seventy-six percent of respondents reported that a primary reason for reshoring production of goods to be sold in the U.S. was to “shorten our supply chain,” while 70% cited reduced shipping costs and 64% said “to be closer to customers.”

“The fundamental economic forces that are prompting many companies to reassess their global manufacturing footprint have not changed,” explained Michael Zinser, a BCG senior partner and coleader of the firm’s global Manufacturing practice. “Given the big differences in wage growth and productivity — and the greater attention companies are paying to total cost — there is good reason to believe that the cost-competitiveness of the U.S. compared with China and many other major export economies will continue to improve in the near term.”

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