Shandong Tranlin in Virginia:

Harbinger of a New Trend? Or Two? Maybe Three?

China's Shandong Tranlin Paper Company finds proprietary "green" technology a powerful lever for gaining financial backing and incentives from governments in both China and the U.S.

By Stuart Sharp

On June 18th, 2014, the Governor's Office of the state of Virginia announced a plan of historic proportions. Shandong Tranlin Paper Company would invest $2 billion USD and create 2000 jobs in Chesterfield County in the state of Virginia. The USA operations will be called Tranlin, Inc.

Using the *FisherSolve*™ database and analytic resources, this article profiles Shandong Tranlin to better understand this announcement and the role they are likely to play in North America. We further explore the implications of this event and what it might foretell about developing trends.

Though unfamiliar to most people outside of China, Shandong Tranlin Paper Company is one of the top in Shandong Province but certainly not the biggest paper company in China. The company has developed the reputation for using non-chlorine bleaching to produce a wide variety of "natural" straw-based paper products. They pride themselves on being extremely environmentally friendly. Shandong Tranlin produces natural paper products from a patented wheat straw pulping process. The company also transforms black liquor from the pulping process into various types of organic fertilizers. The natural paper products can be described as ecru in color.

NON-WOOD FIBER

Non-wood fiber represents less than two percent of fiber used by mills making at least 50 TPD of product, according to machine-by-machine data in *FisherSolve*. The global total is probably slightly higher since very small mills use a disproportionate amount of non-wood fiber. **Figure 1** shows how non-wood compares to recycled and virgin wood fiber usage. Eighty-three percent of the world's non-wood fiber production and usage is in Asia (**Figure 2**).

The non-wood fiber market is highly fragmented with no single company having more than a 4 percent share.

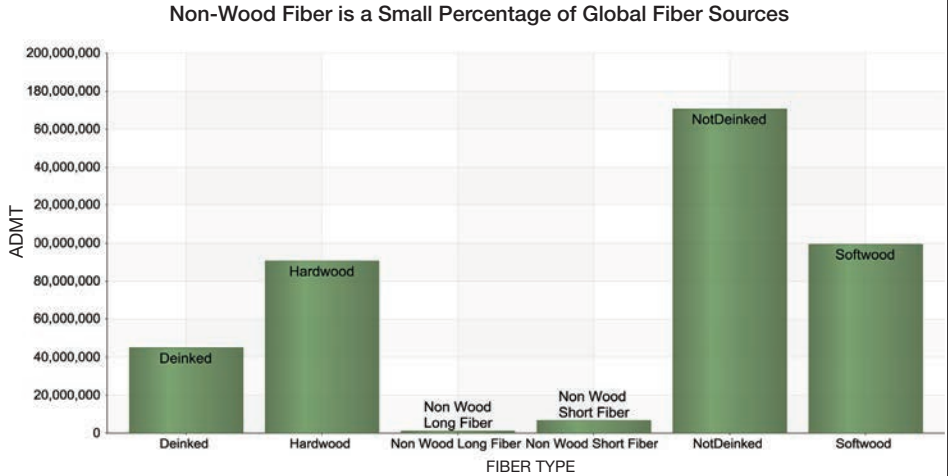
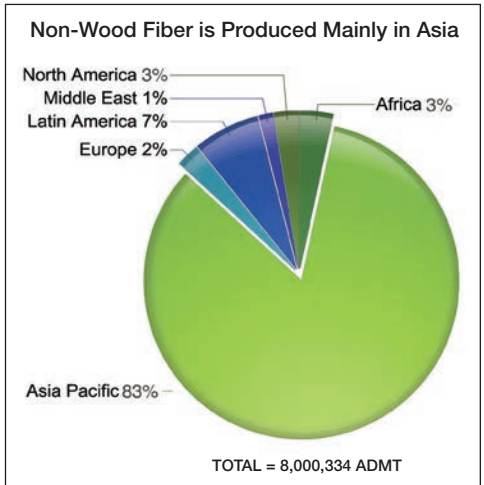


Figure 1



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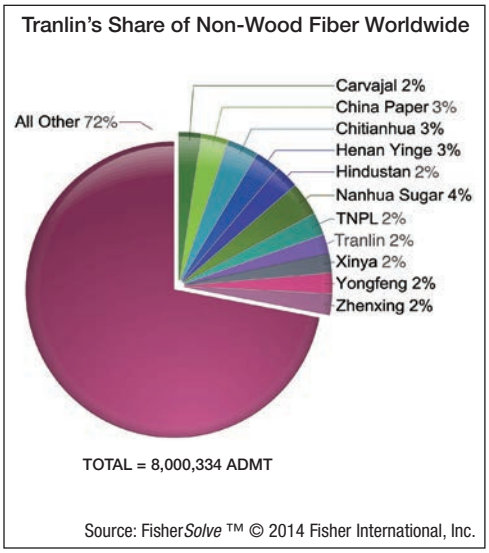

Figure 3

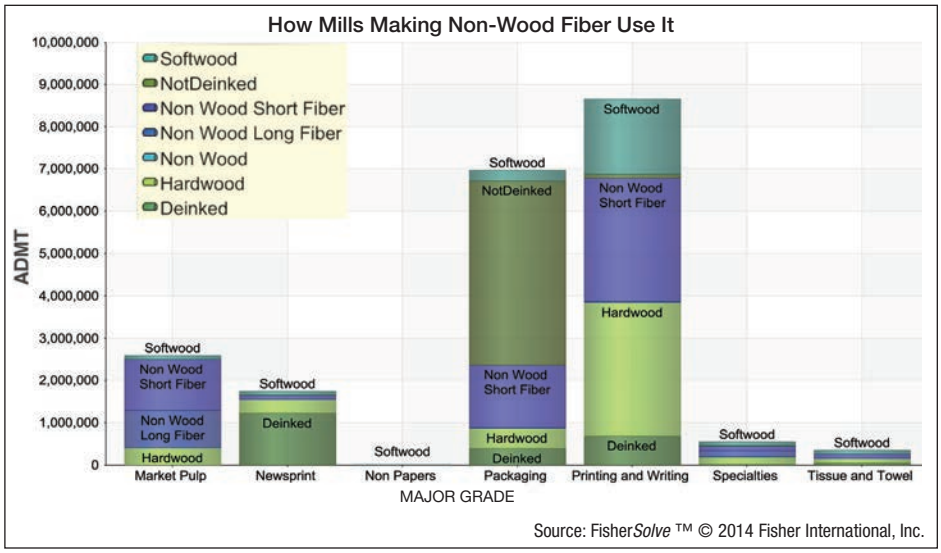

Figure 4

Tranlin, the company with big investment plans for Virginia, today makes about 2 percent of the industry's non-wood pulp as shown in **Figure 3**.

In China, most non-wood production takes place inland. Non-wood fiber is used in every major grade of paper. However, the largest volumes are used in packaging and printing grades. **Figure 4** shows that short fiber non-wood is the most common.

Figure 5 shows that the soda cooking process is the most common way to pulp non-wood fiber, followed by kraft.

Lastly, **Figure 6** shows that non-wood fiber pulps can compete with wood fiber pulps on a cash cost basis, although the qualities of the two might be different, providing different value.

TREND # 1: Wheat Straw Pulping

The Shandong Tranlin Paper Co. announcement is the third Greenfield straw-based pulp mill announced recently in North America. Tranlin and Prairie Pulp and Paper, a second company with straw-based plans, have not yet started the permitting process which typically takes 15-18 months.
So construction is not anticipated until late 2015 or early 2016 for these two companies. The third company, Columbia Pulp, has its Initial Intent to Construct Permit approved and site preparation construction has started. The facility is on schedule to begin operations in Q3 2015. The start-up is expected to coincide with the initial harvest of the wheat straw, according to media reports.

Columbia Pulp. In December of 2013, John Begley, CEO of Columbia Pulp announced plans to build a wheat and alfalfa straw-based pulp mill in Columbia County, in the state of Washington. The company's website reports that the plant will use 240,000 tons of straw annually from within a

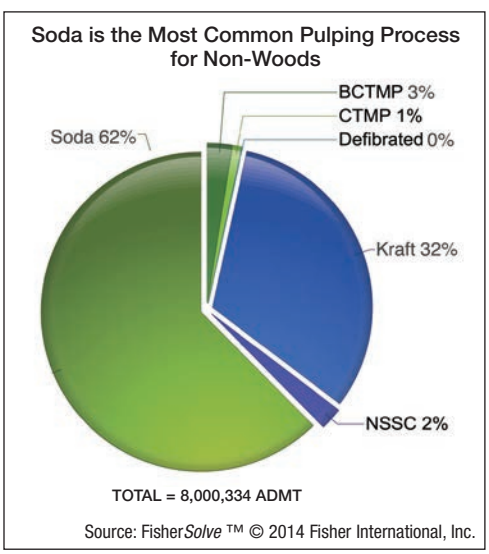

Figure 5

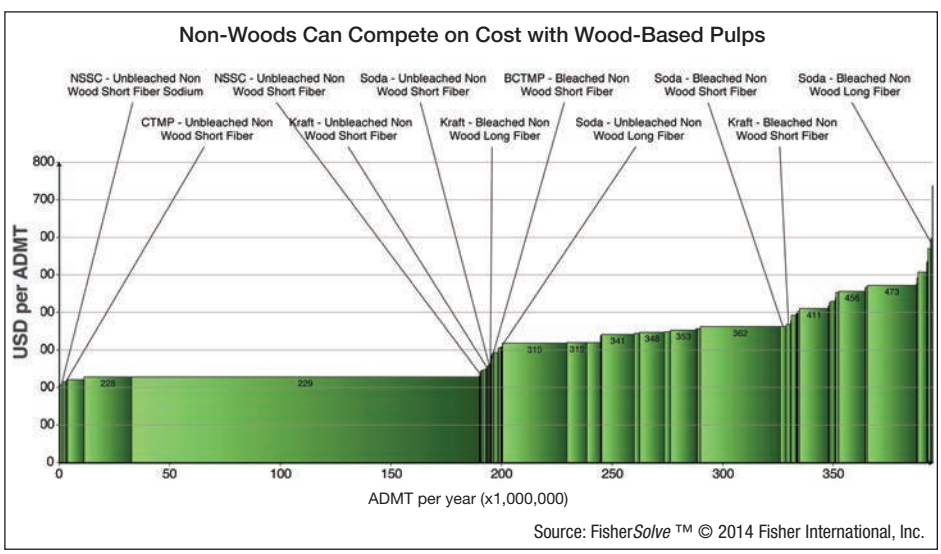

Figure 6

Prairie Pulp and Paper said that it has future plans to construct a mill (most likely in Manitoba) that would produce publishing paper made from 80% wheat straw and 20% recycled fiber.

75 mile radius. The finished product will be roughly 400 tons per day or 140,000 tons per year of wet lap pulp that will be sold to paper mills who sell to packaging and personal care companies. The facility does not anticipate doing any finished product converting. The plant will employ 130 people at full scale operations.

Columbia Pulp will also produce approximately 75 tons per day (26,000 tons per year) of a lignin-carbohydrate by-product. This product will be burned to help to supply power to the plant. It will also be sold as a soil amendment additive. A target base of customers has already been established for the lignin by-product.

Not surprisingly, this part of Eastern Washington grows a significant amount of wheat, alfalfa, and grass seed. In the past, the straw that remained behind after harvest was burned. When the straw stubble was tilled back into the ground, it was found that soil erosion increased. Byron Seney, a local grower in Eastern Washington, started looking for alternative applications for the straw and found it: turn it into environmentally friendly pulp.

Columbia Pulp will use a proprietary pulping process developed by Phoenix Pulp and Polymer of Seattle. Columbia Pulp has obtained the exclusive regional use of the proprietary pulping process ("Plant Would Convert Wheat Straw to Pulp" by Dan Wheat, *Capital Press*, December 18, 2013).

The quality specifications of the straw pulp are such that the straw pulp is expected to be equal in freeness, stiffness, tensile, and burst to virgin hardwood pulp and recycled pulp. Columbia Pulp has contracted a small Beta site to test the scale-up of the operations. The output from this Beta site facility is currently being sold.

On May 22, it was reported that Columbia Pulp had their Conditional Use Permit and Intent to Construct Permit approved by Columbia County. John Begley said that 73 different permits were required for this facility and that no problems were anticipated.

Prairie Pulp and Paper. Before Columbia Pulp made their announcement, Prairie Pulp and Paper (a start-up owned by a private Canadian company named Prairie Paper Ventures in Winnipeg, Manitoba) announced a plan to construct a mill that would produce paper from 80% wheat straw and 20% recycled fiber. The location of this facility is as yet unknown but is expected to be somewhere in Manitoba.

The most conspicuous spokesperson for this venture is Woody Harrelson of TV and Movie acting fame. He has been making various presentations to raise capital for this project. In a 2010 press release, Canadian Government officials said that Canada had invested over C$500,000 to-date in exploring uses for the wheat straw with Prairie Pulp and Paper. Since 2010, the Canadian government has invested an additional C$3.4 million in various research projects as the intended process has been further tested ("Hoping to Raise $5 Million for Woody Harrelson's Tree-Free Paper Project" by Barry Critchley, *Financial Post*, December 10, 2013).

Prairie's ultimate goal is to "build a tree-free paper, off-the-grid, eco-friendly, chlorine free, mill on the prairies where there are millions of tonnes of leftover wheat straw readily available," said Christina Marshall, director of Marketing.

Currently manufactured in India under the trademark Step Forward Paper™, Prairie Pulp and Paper is selling the 80% wheat straw based paper in Staples stores and through the Unisource business-to-business distribution chain. The product, which should be classified as copy paper grade, is also reported to be available from Lyreco and Basics, two Canadian-based Office Supply distributors. Unisource's Manager of Environmental Sustainability, Andrew Gustyn, said

that the Step Forward Paper product is price competitive with 30% recycled paper and cheaper than 100% recycled paper (The least expensive is 100% virgin pulp paper.)

Prairie Pulp and Paper intends to announce its location, timing, and construction of the new facility once the sales volume of Step Forward Paper reaches a level to sustain the operation. The most recent announcement from Prairie is that plans have been delayed until 2015. As of now, the North American operation location is unknown and the permitting process has not started. The announcement appears only to be a matter of time.

Shandong Tranlin Paper Co. The announcement by Shandong Tranlin is also for a Greenfield operation. Unlike Columbia Pulp and Prairie Pulp and Paper, Shandong Tranlin is a well-established company. Per their website, they have capital of 5.5 billion RMB ($886,182,000 USD); 10,000 employees; and 700,000 tons of annual paper production including 75,000 tons of household paper, 400,000 tons of commercial pulp, packaging for some 2.4 billion units of food and medical boxes, and 600,000 tons of organic fertilizer. They also have a stand-alone R&D center. The parent owner is the Quan Lin Group.

The $2 billion investment for the company's first manufacturing facility in the U.S. has been referred to as an "advantaged" manufacturing facility. It is intended to be located on an 850-acre site in Chesterfield County, Virginia and, according to the press release from the state of Virginia, it is the largest investment by a China-based privately owned company in the U.S.

Tranlin will use proprietary technology to produce tree-free, non-chlorine bleached paper products made from 100% agricultural field waste such as wheat and corn stalks. They will also use proprietary technology to convert the black liquor into organic humus-based fertilizer that will be marketed to specialty and organic farmers throughout the U.S. The combination of using wheat straw, which is harvested in the spring, and corn stalks, which are harvested in the fall, will help Tranlin overcome one of the wheat straw pulp mill's issues — timely supply of raw materials.

Tranlin's announced product line is natural pulp, natural paper, natural household paper, and papers that would be sold to food and medical packaging companies. Quoting directly from their website, Tranlin's published mission statement is "Green, Ecological, Innovative, Beneficial." Jerry Peng, the Chairman and CEO of Tranlin, Inc., said that he hopes the company will be publically traded in the future.

We should expect Tranlin to follow Shandong's footsteps with respect to potential suppliers. According to the *FisherSolve* database, they include some of the world's best-known as their operation in China is served by equipment from Andritz, Metso, ABB, and PTM Italia S.p.A., to name a few.

> "According to a report that was released in October 2013, the total value of foreign direct investment (FDI) in the U.S. was $3.9 trillion. In 2012 alone, the value of FDI was $166 billion."

TREND # 2: Foreign Direct Investment in the United States

According to a report prepared by the U.S. Department of Commerce and the President's Council of Economic Advisers that was released in October 2013, the total value of foreign direct investment (FDI) in the U.S. was $3.9 trillion. In 2012 alone, the value of FDI was $166 billion and China's share of that investment has been growing. Before 2010, China FDI in the U.S. was negligible. During the years 2010-2012, the average FDI from China was $1 billion (a mere 0.6% share from the world's second largest economy). The Shandong Tranlin announcement triples the annual average in just one venture.

Other FDI infusions into the U.S. paper industry include International Grand Investment (IGI)'s announcement earlier this year that they would build 2 new tissue machines at their Woodland Pulp LLC facility located in Maine. IGI is a privately held investment group based in China.

This, along with the Shandong Tranlin investment announcement seems to indicate that as Chinese companies grow and expand, they are finding that it makes more sense to manufacture their finished product closer to the end-use market.

These two events are the most recent examples of what we can expect to see on the FDI front in the paper industry.

TREND # 3: Intellectual Property-Based Financing

In March of 2014, it was reported by *IAM Magazine* and China Paper, a trade publication on financing in China, that Shandong Tranlin received a loan of RMB 7.9 billion ($1.3 billion) based on a portfolio of 34 trademarks and 110 patents. The

lending institution was the China Development Bank. The value of the patents was RMB 6 billion ($1.0 billion). This is among the largest known sums where an intellectual property (IP) portfolio has been used in a loan transaction (Intellectual Asset Management, May/June 2014). Li Hongfa, Chairman of Shandong Tranlin said, "I didn't believe that intellectual property could play such a big role in the loan transaction and account for such a large proportion of it. The project can now accelerate once the money is in place. Market opportunities do not wait."

It is not clear exactly what project Mr. Li Hongfa is referring to. What is clear, however, is that the patents of the Shandong-Tranlin Paper Co. have value. Shandong Tranlin, again quoting from their website, describes itself as "One of the first experimental enterprises of a national recycling economy." They have received an award from the Chinese government as "The First Group of National Cycling Economy Pilot Enterprise."

On June 15, 2014, there was a special published report titled "China's policies and instruments for developing the circular economy." It was authored by Dajian Zhu, the Director of the Institute of Governance for Sustainable Development. The intent of the "circular economy" policy is to address the increasingly serious resources challenges and environmental threats faced by China. It is not a simple environmental management policy but a green economy measure and a new development tool that is planned to allow China to leapfrog to a sustainable economic model.

It is intended to reward companies that embrace the idea of closed-loop

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solid waste material flows in all stages of production, distribution, consumption, and treatment of waste. The second area of the law is Resource Productivity improvement. This is to allow companies to control consumption of water, land, energy, and materials, as well as the discharge of main pollutants. This will encourage the transition of corporations to a more sustainable "green" business.

The policy report indicates that this Circular Economy program is active in China today. As the government tends to control the economy and the banks, i.e. lending institutions, it is very possible to influence the outcome of lending practices. If Tranlin is successful in the U.S., we should expect to see more of the same.

As the value of IP increases, Chinese corporations will conduct more R&D in order to be able to generate patents. North American players need to be aware of a business paradigm shift taking place in China. The Chinese government is highly aware of resource and environmental issues and is taking active steps to limit, control, or change the status quo of Chinese corporations and their participation in the green economy through innovation.

SUMMARY

We are aware of three "non-woody" pulping facilities that have been announced — all have a "closed-loop" disposition. One of them is very active in the construction process while two of them have not yet started to file for permits. The two that have not yet started, plan to produce paper in various grades and one will produce pulp. There will be multiple profit streams from the mills as they sell the transformed black liquor either as fertilizer or as a soil amendment. At the same time, incoming raw material will be relatively inexpensive to obtain.

We are aware that FDI from China is on the rise as China's cash-rich companies, along with policy support from the Chinese government, invest in the U.S. in order to reduce the trade debt. We should expect to see a continuation of this trend provided Chinese companies are successful in their U.S. operations.

If Tranlin can receive a loan for projects and expansion to the tune of $1.3 billion coupled with the Circular Economy encouragements of the Chinese lending institutions, AND Tranlin is successful in Virginia, we can expect to see an increase in R&D and Chinese patents in conjunction with a strong emphasis on ecology, resource reduction, and reutilization of energy and other resources leading to closed-loop manufacturing practices in the future from the pulp and paper industry of China. ■

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