

Clash of the Titans: Competition for Woody Biomass in the US South

The pulp and paper industry is deeply entrenched in the southern United States, both historically and economically. Less than 30 years after Carl Dahl invented the modern kraft pulp process, the first kraft mill in the United States opened in Pensacola, Florida. It was 1911. Exactly 20 years later, G.H. Tomlinson invented the recovery boiler, a technology that would drive down costs and set the stage for rapid growth in the industry. As a result, the pulp and paper industry in the United States is now a \$10-billion-a-year industry. In fact, business has been strong even through the global economic downturn, and the US industry continues to compare favorably from a cost perspective to producers in the rest of the world.

In the South, pulp and paper mills have been extremely successful due (generally) to a lower cost structure, as compared to other regions. In 2010, total consumption of pulp fiber at these mills topped 163 million tons (Figure 1), more than twice as much as all other regions combined. For the first time in decades, however, this very successful industry is facing a competitor of similar stature. Both domestically and internationally, the energy sector is more and more interested in renewable energy sources, such as wood fiber. Domestically, the diversion of wood fiber from paper to renewable energy is occurring even in states without renewable electricity standards.

As an example, consider the effects of replacing a small percentage of the coal-derived electricity that southern states consume on a BTU basis. At a 1 percent replacement rate, 10 million tons of wood fiber demand would be added to the system annually. At a 5 percent replacement rate, an additional 50 million tons would be needed.

Making matters worse for the paper industry, the South also is uniquely positioned to export pellets to the European Union (EU), where renewable energy sources are not only mandated, but some countries exceed their production targets.

It is estimated the EU demand will be 20–50 million tons by 2020. Because shipping costs to Europe from the South are relatively low, because the climate is conducive to year-round harvests and rapid tree growth, and because the supply chain in the region is well established, the South is likely to supply roughly one-third of that amount: 6.5 to 16.5 million tons of pellets. This represents an additional 13 to 33 million tons of fiber consumption on top of the 10 to 50 million tons needed to meet domestic demand. Combined, that is a 14 percent increase in consumption over current levels at the low end, and a 50 percent increase at the high end.

Conflict over supply is inevitable and, on many fronts, the pulp and paper industry looks vulnerable. Although it is dependent on economic drivers for its profitability—GDP growth, demographics and changing customer preferences, population growth, and exchange rates—the renewable energy sector is mandate-driven, highly regulated, and subsidized. These differences create a competitive disadvantage for pulp and paper mills.

Mills are also at a competitive disadvantage to domestic power companies, because wood fiber makes up 25 to 40 percent of a mill's cost of goods sold. Because this number is many times higher than it is for energy companies, the impact of price increases is amplified for mills. In addition, despite being the largest producer of biomass energy in the United States, pulp and paper mills are still power company customers.

Competition with export-pellet manufacturers will be complicated by geographical necessities. An ideal pellet facility site requires access to a deep-water port with bulk handling capabilities, space for expansion, favorable growth-to-drain ratios in the surrounding timber basin, and favorable freight rates to Europe. Currently, only a handful of US ports meet these requirements. Because the United States exported a large percentage of its pulp and paper overseas in

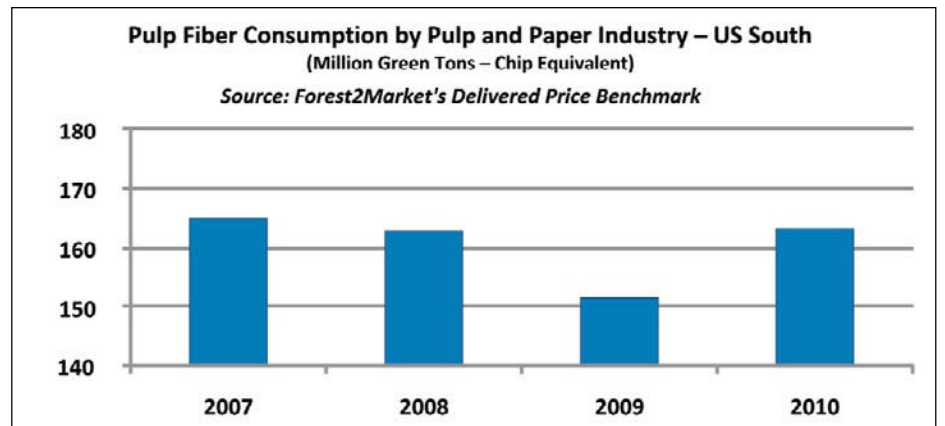


Figure 1. Pulp and paper mills in the US South consumed about 163 million tons of pulp fiber in 2010, more than twice as much as other regions combined.

the 1960s and 1970s, pulp and paper mills are located in these same areas. Although pockets of conflict will be spread across the region, it's expected that, in some areas, the competition will be fierce.

Who will win this clash of the titans? While neither side should be underestimated, two strong factors point to the pulp and paper industry—at least in this round:

- Pulp and paper mill locations are fixed. They require high capital investment at start up. Relocation is not an option either, as states are not likely to issue new greenfield water permits to pulp and paper mills. Expect these companies to defend the ground they hold.

- Pulp and paper mills have long-term relationships with those who operate within the supply chain. Annually in the United States, the industry receives 9.5 million truckloads of trees. This vast network of suppliers will continue giving preference to the established and reliable pulp and paper industry even as new opportunities emerge.

- Pulp and paper mills currently have the advantage of economics. With the price of Southern Bleached Softwood Kraft at \$1,000/ton and costs sitting at approximately \$670/ton, profitability is more than \$300/ton. As long as the kraft market re-

mains strong, pulp and paper mills can afford some price appreciation. Domestic biomass energy production is not terribly competitive right now, with wholesale power rates between \$0.06–\$0.12/ kWh and production costs of between \$0.09 and \$0.16/kWh depending upon the size of the plant. As for pellets manufactured in the South and shipped to the EU, Forest2Market estimates show that they are currently a break-even proposition, with production and transportation costs to port at \$135 US/ton, roughly the same price at which pellets were trading in June.

Although the pulp and paper industry seems to be the dominant player, at least for now, new demand for wood fiber—whether it is 23 or 83 million tons—will squeeze supply in the next decade. To deal with this increase, a two-tiered market will develop. The domestic market will take shape inland, away from the ports, and will be focused on bioelectricity, with both cofiring and standalone plants. The export pellet market will put down roots along the Southeast and Gulf Coast. Expect the pulp and paper industry to become increasingly effective at acquiring subsidies to offset the effects of this new demand as well.

Peter J. Stewart is president and chief executive officer of Forest2Market (www.forest2market.com).

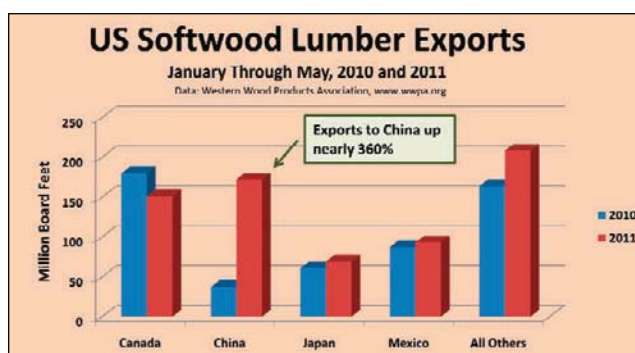
INDUSTRY NEWS

China's Wood Demand Continues

Log exports to Asia—China, in particular—continue to help US forest products companies weather the domestic housing-market storm (see “Exports a Bright Spot for US Forest Products Industry,” April). Weyerhaeuser Co. recently reported that the share of its total export volume to China increased to 26 percent in the first half of this year, up from 15 percent during the same period in 2010.

Plum Creek Timber Co. reported that it shipped 27 percent of its Oregon sawlog harvest to China during the second quarter of this year, up from 20 percent in the first quarter.

“While we expect that Chinese demand will exhibit some volatility from time to time, we believe their presence in the North American market is a lasting one that adds a relevant ... source of demand to West Coast log and lumber markets,” said Plum Creek president and chief executive



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officer Rick Holley at a press conference in July. “We expect that offshore demand, combined with reduction in future Canadian supply, will transform the North American supply-and-demand balance in the future, which is a positive for Plum Creek.”

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India: The Next China?

China also is a key customer for Canfor, the Vancouver, British Columbia-based forest products company. However, in December the company made its first shipment of lumber to India, after trade barriers were lifted. Although the shipment was a small one—the company did not disclose the actual volume—Canfor president and chief executive officer Don Kayne compared India's current demand for lumber with China's demand 10 years ago.

Canfor, said Kayne is a conference call with reporters, is “in the very initial stages of trying to get our hands around just what parts of India provide the biggest opportunities.... Because, like China, it is a huge

country and the first thing would be to try and determine what areas and what products have the best potential.”

Timber Purchasers in Rockies Get Relief

The US Forest Service's Rocky Mountain Region recently announced that it may grant some purchasers the option of withdrawing from timber-sale contracts signed in the early to mid-2000s that are no longer economically viable and have become a financial liability to the purchasers. Prices in such contracts were set before the US housing downturn and subsequent decline in log and lumber prices.

“The loss of mills and independent loggers in this region because of financial struggles, or otherwise, will negatively impact the Forest Service's ability to be responsive to the hazards posed by the bark beetle epidemic,” said Acting Regional Forester Jerome Thomas. “It is critical that we do all that we can to support this struggling industry while continuing to provide for public and employee safety and protecting critical infrastructure like roads, watersheds, and power lines.”